Prologis

TRANSPORTATION IMPACT STUDY

Proposed Industrial Development

12519-12715 Humber Station Road, Caledon, ON

November 2024

25134

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Reference Number: 25134

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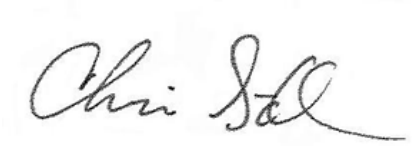
RE: Transportation Impact Study
Proposed Industrial Development
12519-12715 Humber Station Road, Town of Caledon

LEA Consulting Ltd. (LEA) is pleased to present the findings of our Transportation Impact Study (TIS) for the proposed industrial development located at 12519-12715 Humber Station Road in the Town of Caledon. This TIS has been prepared for Prologis in support of the Site Plan Approval (SPA) application for the proposed development. This report concludes that the traffic associated with the proposed development maintains acceptable conditions for the road network in the surrounding area, with minor optimizations for the network.

Should you have any questions regarding this Transportation Impact Study, please do not hesitate to contact the undersigned at (905) 470-0015.

Yours truly,

LEA CONSULTING LTD.



Christopher Sidlar, M.Sc.Pl., MCIP, RPP
Senior Vice President, Transportation

Encl. Transportation Impact Study – Proposed Industrial Development, 12519-12715 Humber Station Road, Town of Caledon (November 2024)

Disclaimer

This Report represents the work of LEA Consulting Ltd ("LEA"). This Report may not be relied upon for detailed implementation or any other purpose not specifically identified within this Report. This Document is confidential and prepared solely for the use of Prologis. Neither LEA, its sub-consultants nor their respective employees assume any liability for any reason, including, but not limited to, negligence, to any party other than Prologis for any information or representation herein.

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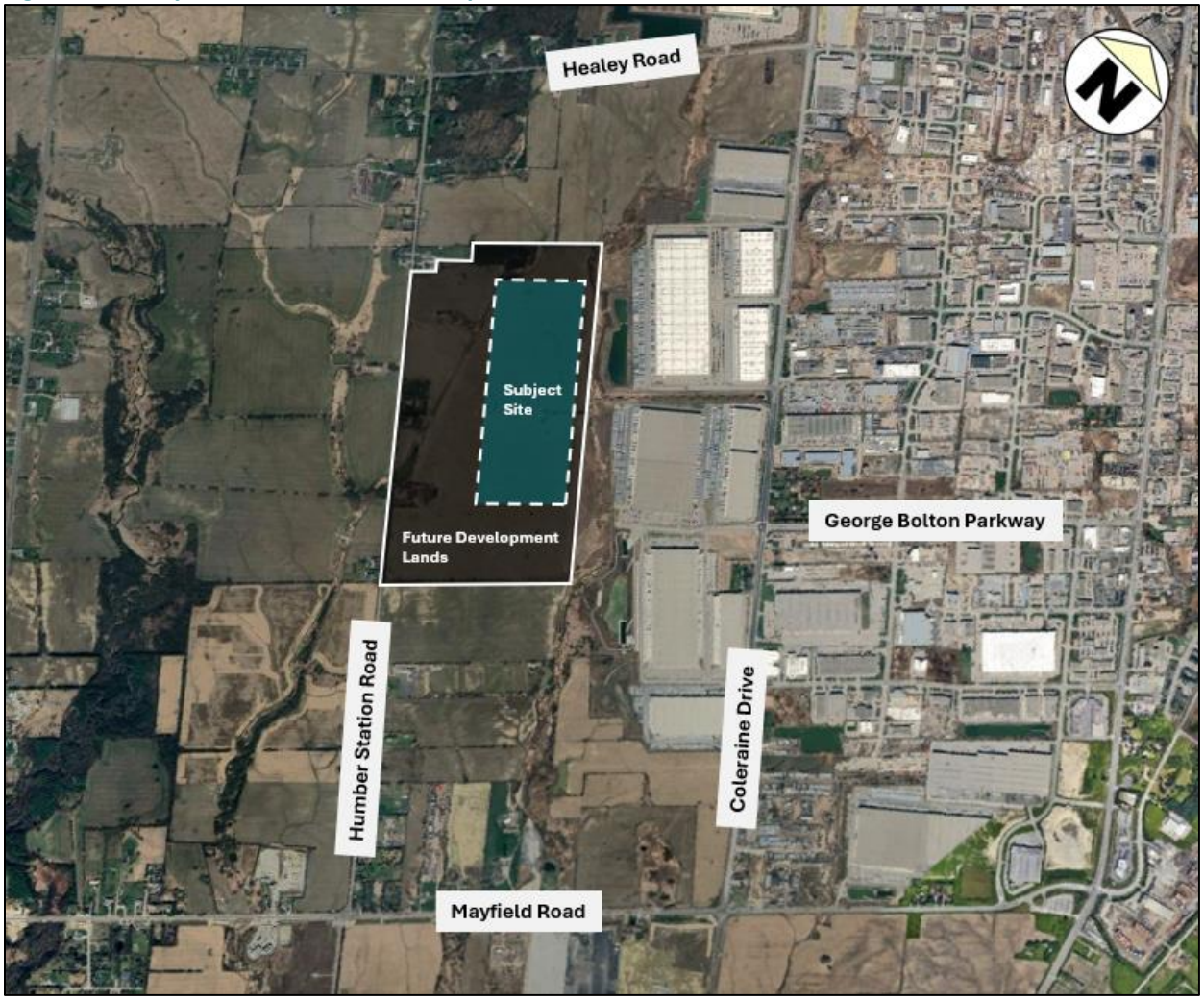
1 INTRODUCTION

LEA Consulting Ltd., (LEA) has been retained by Prologis to undertake a Transportation Impact Study (TIS) in support of the Site Plan Approval (SPA) application for Phase 1 of the proposed industrial development located at 12519-12715 Humber Station Road, in the Town of Caledon (herein referred to as the "subject site"). It is understood that the master plan concept for the development lands includes six (6) industrial buildings. This TIS has been prepared to support Phase 1 of the development which will introduce the first industrial building to the currently vacant site. The development lands are bounded by Humber Station Road to the west, the Clarkway Tributary to the east, and vacant lands to the north and south, as illustrated in **Figure 1-1**.

Figure 1-1: Subject Site & Future Development Lands Location



Source: Google Maps, Accessed August 2024

The purpose of this study is to assess the proposed development from a transportation perspective, to determine the traffic impacts to the adjacent road network over a 6-year horizon, and to identify any required mitigation measures. In addition, this study provides a review of the parking and loading supply

and outlines Transportation Demand Management (TDM) measures to encourage alternative modes of travel. The study will be conducted in accordance with the Town of Caledon *Transportation Impact Study Guidelines (2017)* and in-line with the Region of Peel *Transportation Impact Study Guidelines*.

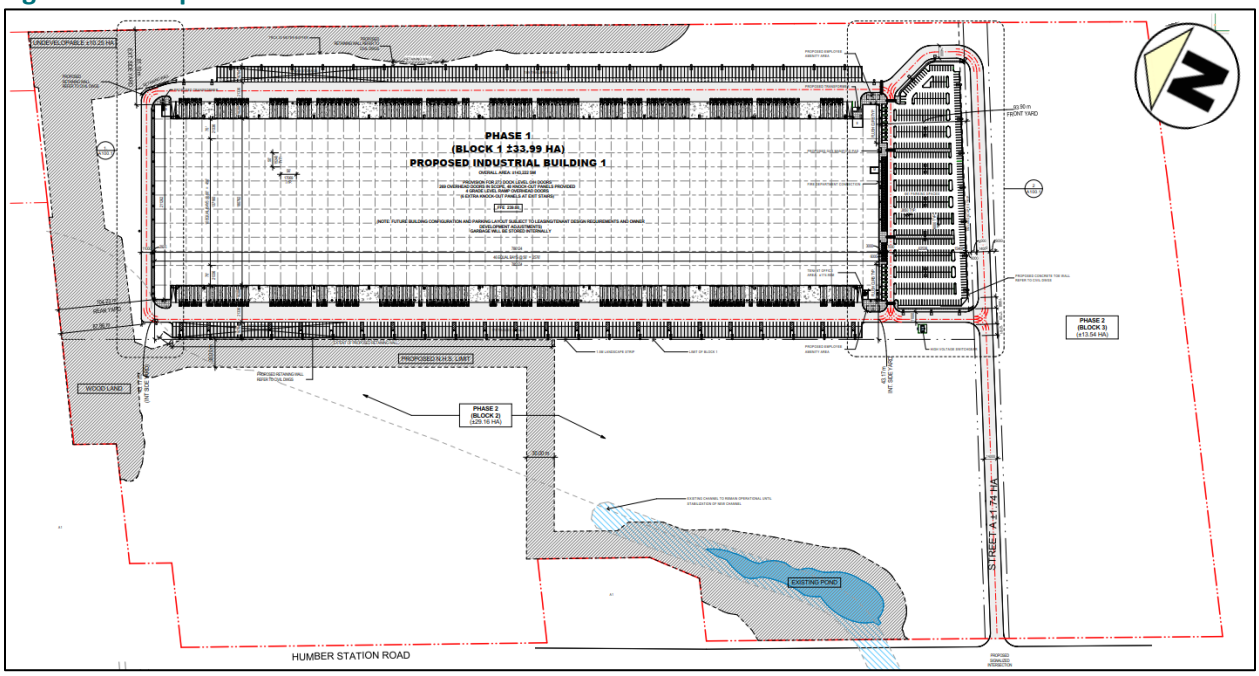
1.1 PROPOSED DEVELOPMENT

Phase 1 of the development proposal consists of a 143,222 m^2 industrial building. It is understood that warehousing activities are proposed for the building. The proposed development will provide 681 parking spaces, 368 trailer parking spaces, and 260 loading docks at grade. As part of the development proposal, the partial extension of George Bolton Parkway will be constructed, from Humber Station Road to the Clarkway Tributary. The intersection of Humber Station Road & George Bolton Parkway is proposed as a signalized full movements intersection. Access to the proposed development will be provided via two (2) full-movement accesses off the future George Bolton Parkway extension. A breakdown of the site statistics is outlined in **Table 1-1**. The proposed site plan is illustrated in **Figure 1-2**.

Table 1-1: Proposed Site Statistics

Land Use	GFA or Spaces
Industrial (Building 1)	143,222 m^2
Parking Supply	681 spaces plus 3 trailer parking spaces
Loading Supply	260 spaces

Figure 1-2: Proposed Site Plan



Source: Petroff Partnership Architects, April 19, 2024

2 EXISTING TRANSPORTATION CONDITIONS

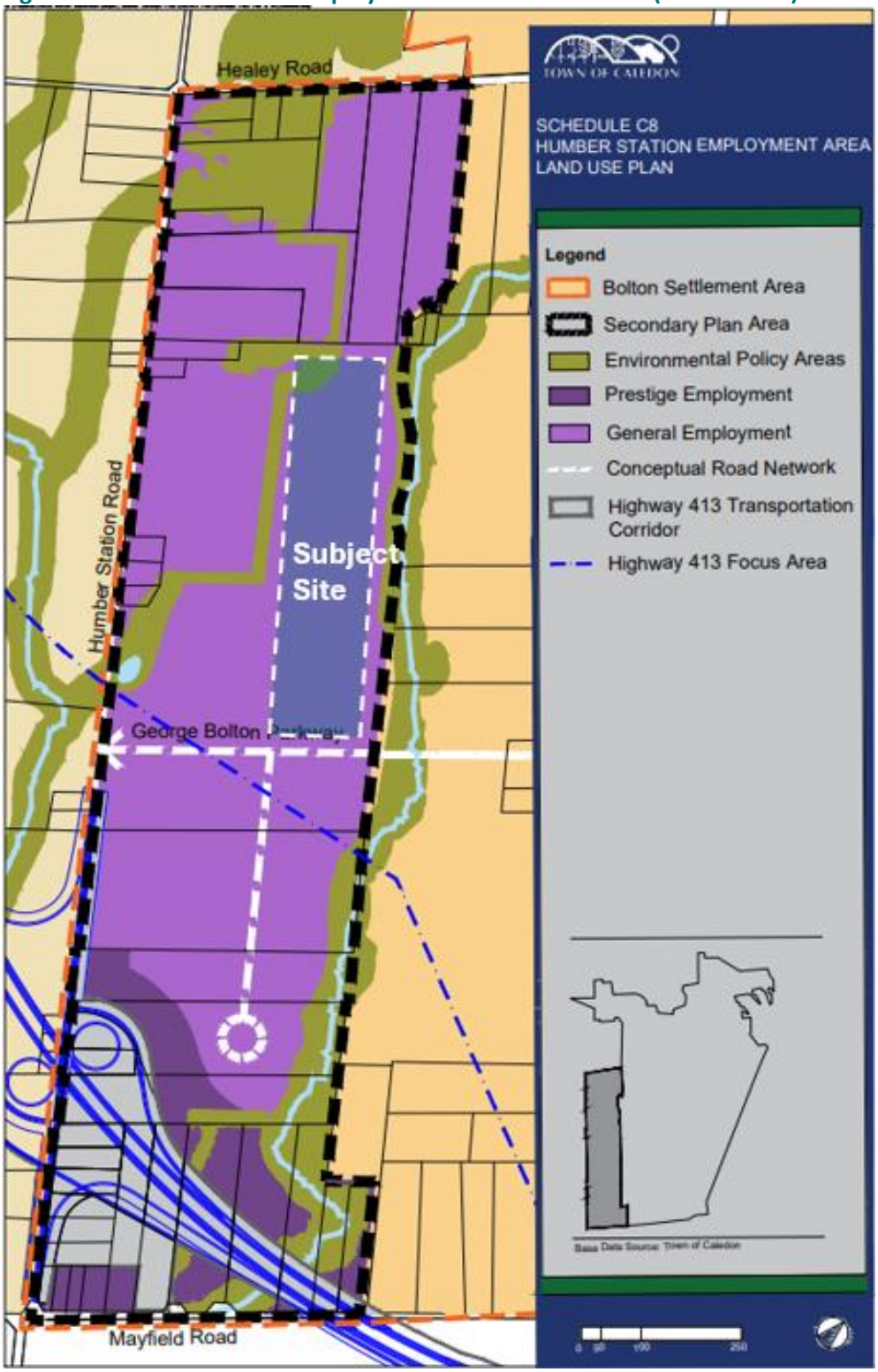
This section reviews the existing transportation conditions and policy context within the study area, including the road, transit, cycling, and pedestrian networks. The study area was determined by assessing the size of the proposed development and its anticipated transportation impacts. The intersections and streets included in the analysis are listed below:

- Humber Station Road & Healey Road (unsignalized);
- Humber Station Road/Clarkway Drive & Mayfield Road (signalized); and
- Humber Station Road & George Bolton Parkway Extension (future – signalized).

2.1 HUMBER STATION EMPLOYMENT AREA SECONDARY PLAN

The Town of Caledon is working with the Humber Station Villages Landowners Group (HSV LOG) to prepare a secondary plan for the Humber Station Employment Area lands in southwest Caledon. On October 10, 2023, Council adopted Official Plan Amendment No. 274 (OPA 274), to expand the Bolton Rural Service Centre Boundary and designate the Humber Station Employment lands as a 'New Employment Area'. The secondary plan is currently under review and will include more detailed policies and land use designations to guide development on the employment lands. The subject site is located within the central region of the Humber Station Employment Area lands as illustrated in the proposed Land Use Schedule (C8) shown in **Figure 2-1**. The employment lands are planned for employment consisting of Prestige Employment and predominately General Employment land use designations.

Figure 2-1: Humber Station Employment Area Land Use Plan (Schedule C8)

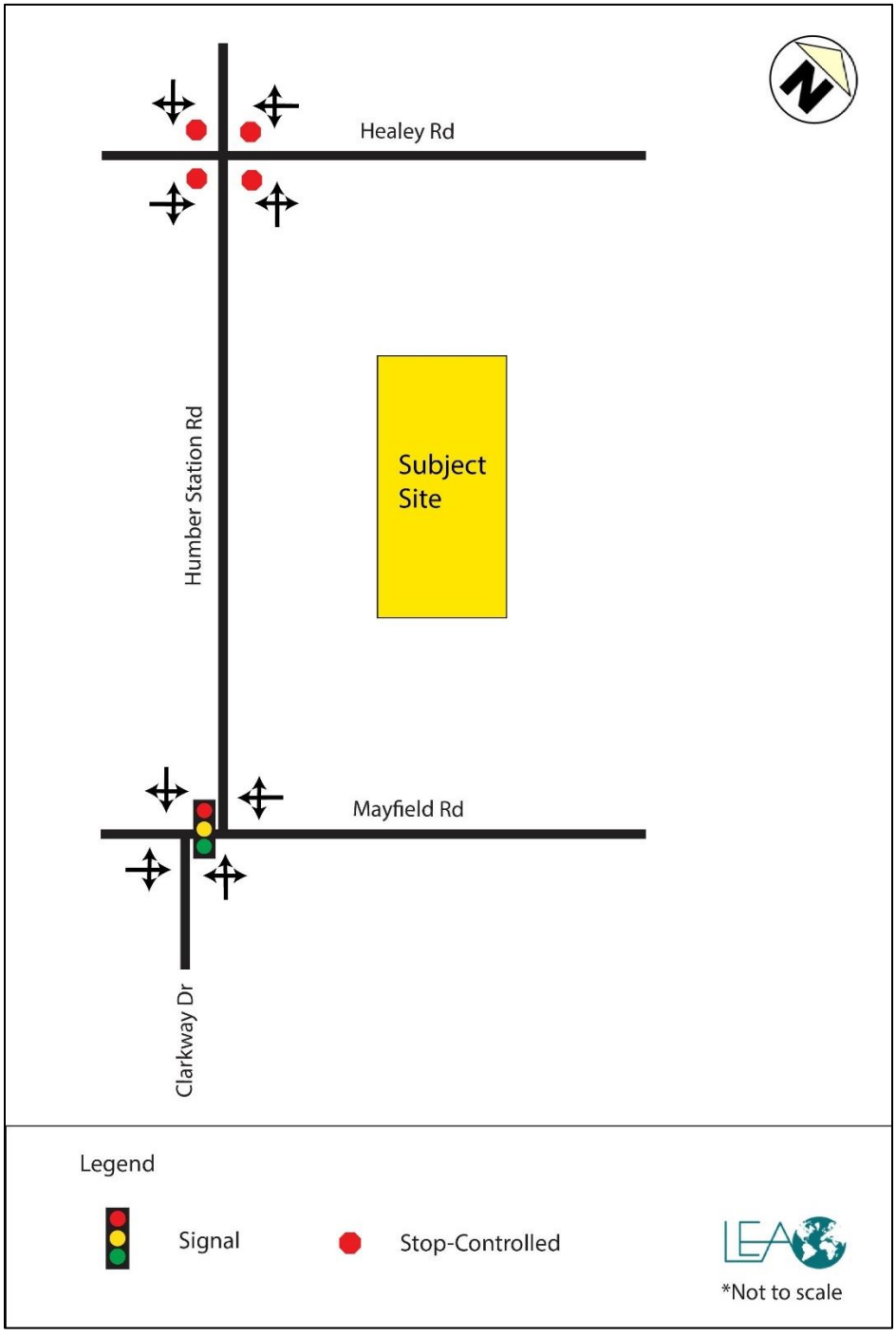


Source: Town of Caledon, 2024

2.2 EXISTING ROAD NETWORK

The following section provides a description and classification of roadways within the study area. All regional roadways are under the jurisdiction of Peel Region while the remaining roadways are under the jurisdiction of the Town of Caledon or City of Brampton. **Figure 2-2** illustrates the existing lane configuration and traffic control of the study area intersections.

Figure 2-2: Existing Road Network



- **Humber Station Road** is a north-south collector road under the jurisdiction of the Town of Caledon. The roadway extends north from Mayfield Road to Highway 9, operating with a 2-lane cross-section (1 lane per direction) and with a posted speed limit of 80 km/h within the study area. Of note, the Town of Caledon plans to reduce the posted speed limit along Humber Station Road to 60 km/h, which will be presented to Council in 2024.
- **Clarkway Drive** is a north-south collector road under the jurisdiction of the City of Brampton. The roadway extends north from Cottrelle Boulevard in Brampton to Mayfield Road, operating with a 2-lane cross-section (1 lane per direction) and with a posted speed limit of 70 km/h within the study area.
- **Mayfield Road** is an east-west high-capacity arterial road under the jurisdiction of Peel Region. The roadway extends west from Albion Vaughan Road to Winston Churchill Boulevard in Halton Hills. The roadway acts as a municipal boundary between Caledon and Brampton. Mayfield Road operates with a 2-lane cross-section (1 lane per direction) and with a posted speed limit of 80 km/h within the study area.
- **Healey Road** is an east-west collector road under the jurisdiction of the Town of Caledon. The roadway extends west from Queen Street S to Airport Road, operating with a 2-lane cross-section (1 lane per direction) and with a posted speed limit of 60 km/h within the study area.
- **George Bolton Parkway** is an east-west industrial collector road under the jurisdiction of the Town of Caledon. The roadway extends west from Highway 50 and terminates approximately 430 m west of Coleraine Drive. George Bolton Parkway operates with a 2-lane cross-section (1 lane per direction) and with a posted speed limit of 50 km/h within the study area. As part of the development proposal, the partial extension of George Bolton Parkway west of the Clarkway Tributary will be constructed.

2.3 EXISTING TRANSIT NETWORK

There is currently no Town-wide local public transit service operated by the Town of Caledon. However, following the Town's Transit Feasibility Study in 2019, Voyago was retained to provide local service in the Bolton area. It is understood that as of 2024, service by Voyago has been replaced by Brampton Transit via Route 41 which operates along Highway 50 between Queen Street/Highway 7 in Brampton to Columbia Way/Bolton Heights in Caledon. The route operates Monday to Friday during peak commute hours. The closest bus stop to the subject site is located at George Bolton Parkway & Coleraine Drive. However, given the lack of mid-block road connections to Coleraine Drive, this bus stop is located approximately 5 km from the subject site.

An inter-regional commuter bus service is also available within the Bolton area. The inter-regional route is operated by GO Transit between Malton and the area of Highway 50 & Columbia Way with opportunities to transfer to Metrolinx's GO rail transit. The route operates Monday to Friday during peak hours. The existing transit routes within the Bolton area are illustrated in **Figure 2-3** and **Figure 2-4**. Details of the available services in the area are provided in **Table 2-1**.

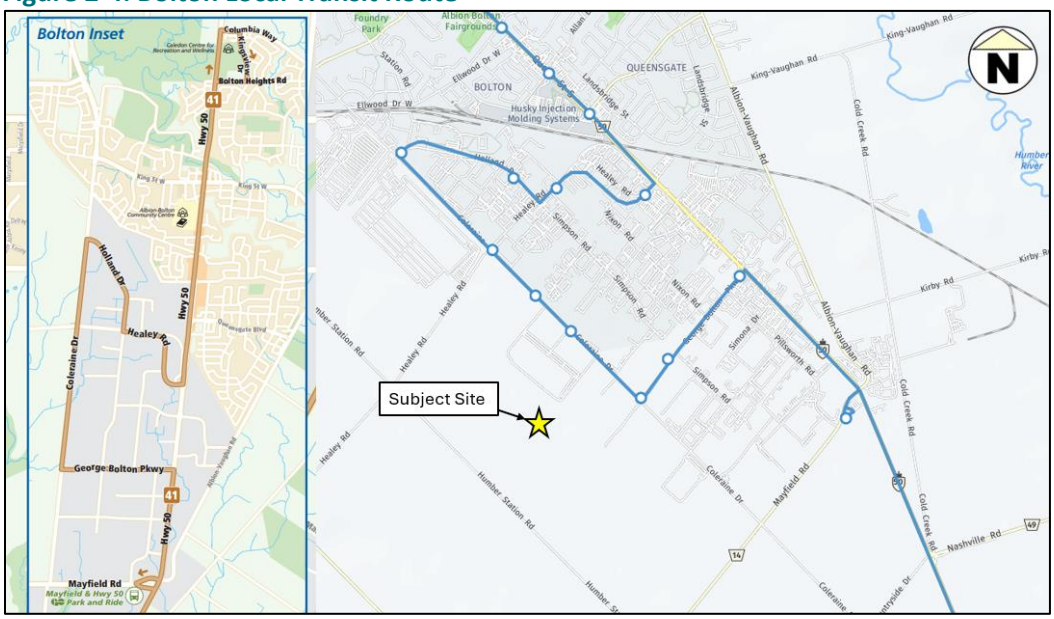
Table 2-1: Existing Transit Service

Transit System	Route	Description	Frequency	Accessibility from Subject Site
GO Transit	Route 38	Bolton to Malton (Monday to Friday, 5AM - 7:30AM and 3:30PM - 6:30PM)	60 minutes	Mayfield Road @ Highway 50: 4.3 km
Brampton Transit	Route 41	Bolton to Brampton (Monday to Friday, 5AM - 9:30AM and 3PM - 6:30 PM)	2 hours	George Bolton Parkway @ Coleraine Drive: 5 km

Figure 2-3: GO Transit Route 38

Source: GO Train and Bus Schedule (Metrolinx, April 2023)

Figure 2-4: Bolton Local Transit Route

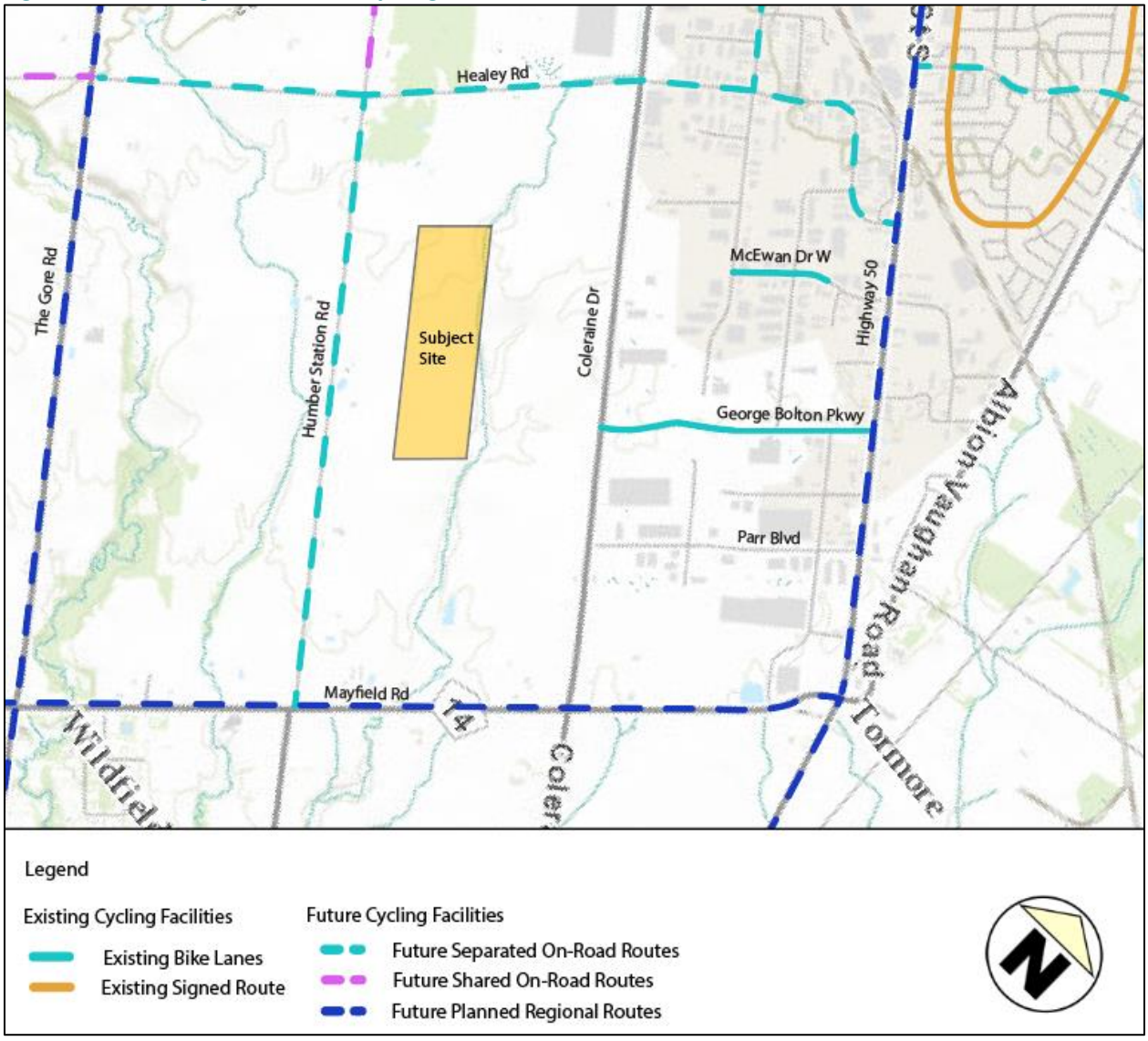


Source: Brampton Transit & Triplinx, 2024

2.4 EXISTING CYCLING NETWORK

Cycling facilities in Caledon consist of on and off-road facilities that are managed by the Town of Caledon, Peel Region, and adjacent municipalities. Due to the current rural and undeveloped nature of the study area, there are a limited number of active transportation and cycling facilities. Bike lanes are provided on both sides of George Bolton Parkway, east of Coleraine Drive as well as along a portion of McEwan Drive W. However, no cycling facilities are available along the remaining study area roadways. **Figure 2-5** illustrates the existing and planned cycling facilities within the study area.

Figure 2-5: Existing and Planned Cycling Network



2.4.1 Cycling Multimodal Level of Service Evaluation

An analysis of the multimodal level of service (MMLOS) for the cycling network in the study area was undertaken to provide a baseline biking level of service in the study area. The cycling network has been evaluated in accordance with the *City of Ottawa's Multi-Modal Level of Service (MMLOS) Guidelines* to describe the convenience and comfort level of active transportation infrastructure in the study area. The results are on a scale of 'A' to 'F', where 'A' represents the preferred conditions and 'F' represents the least preferred conditions. The biking level of service (BLOS) evaluation was conducted for the worst segments of Healey Road, Humber Station Road, and Mayfield Road within the study area.

The BLOS for the study area roadway segments is summarized in **Table 2-2**. Detailed MMLOS analysis is provided in **Appendix A**.

Table 2-2: Existing Bicycle Level of Service (BLOS)

Segment	From	To	Side	Existing (2024) LOS
Healey Road	Humber Station Road	Coleraine Drive	North	F
			South	F
Humber Station Road	Healey Road	Mayfield Road	East	F
			West	F
Mayfield Road	Humber Station Road	Coleraine Drive	North	F
			South	F

Overall, the study area displays a BLOS of 'F'. This is largely due to the lack of dedicated cycling facilities, the number of travel lanes, and the speed of traffic along most roads within the study area.

2.5 EXISTING PEDESTRIAN NETWORK

Given the rural nature of the study area, the site exhibits poor pedestrian connectivity. Surrounding the study area, sidewalks and a multi-use path are provided along George Bolton Parkway, east of the tributary. However, sidewalks are missing along the surrounding collector and arterial roadways including Mayfield Road, Humber Station Road, and Healey Road. Improvements to the pedestrian connectivity which will be addressed as the Secondary Plan Area becomes urbanized through development.

2.5.1 Pedestrian Multimodal Level of Service Evaluation

An analysis of the multimodal level of service (MMLOS) for the pedestrian network in the study area was undertaken to provide a baseline pedestrian level of service in the study area. The pedestrian network has been evaluated in accordance with the *City of Ottawa's Multi-Modal Level of Service (MMLOS) Guidelines* to describe the convenience and comfort level of active transportation infrastructure in the study area. The results are on a scale of 'A' to 'F', where 'A' represents the preferred conditions and 'F' represents the least preferred conditions. The pedestrian level of service (PLOS) evaluation was conducted for the worst segments of Healey Road, Humber Station Road, and Mayfield Road within the study area.

The PLOS for the study area roadway segments is summarized in **Table 2-3**. Detailed MMLOS analysis is provided in **Appendix A**.

Table 2-3: Existing Pedestrian Level of Service (PLOS)

Segment	From	To	Side	Existing (2024) LOS
Healey Road	Humber Station Road	Coleraine Drive	North	F
			South	F
Humber Station Road	Healey Road	Mayfield Road	East	F
			West	F
Mayfield Road	Humber Station Road	Coleraine Drive	North	F
			South	F

Overall, the study area displays a PLOS of 'F'. This is largely due to the lack of pedestrian facilities along the arterial and collector roads within the study area including Mayfield Road, Humber Station Road, and Healey Road.

2.6 TRAFFIC DATA COLLECTION

Turning movement counts (TMCs) were used as the source of traffic data for the intersection capacity analysis. Traffic counts were collected by LEA Consulting on Wednesday, May 3, 2023, between 7:00AM - 9:30AM and 4:00PM - 6:30PM to capture the weekday AM and PM peak periods.

Signal timing plans at the signalized intersections were obtained from the Region of Peel. Heavy vehicle traffic, pedestrian traffic, and cyclist traffic were recorded separately and included in the capacity analysis. A summary of the TMC data collected is provided in **Table 2-4**, with detailed traffic counts and signal timing plans available in **Appendix B**.

Table 2-4: Data Collection Summary

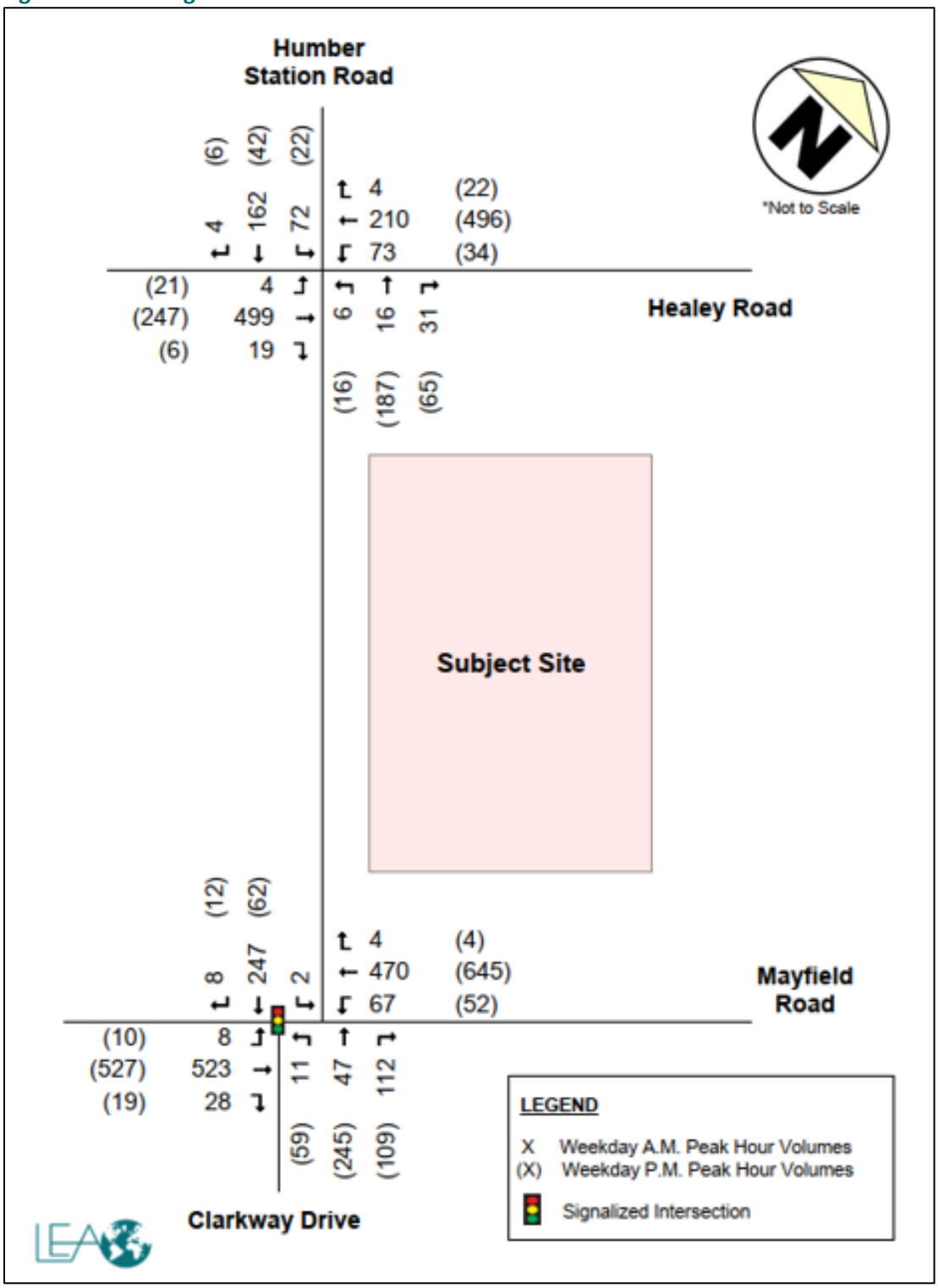
Intersection	TMC Date	Source
Humber Station Road & Healey Road	Wednesday, May 3, 2023	LEA Consulting
Mayfield Road & Humber Station Road/Clarkway Drive		

As of fall 2022, it is understood that the Town of Caledon accepts new traffic data. As such, no COVID adjustments were performed on the counts collected.

2.7 EXISTING TRAFFIC VOLUMES

The existing traffic volumes during the weekday AM and PM peak hours are illustrated in **Figure 2-6**. Volume balancing was applied to through movements where adjacent intersections had volume discrepancies greater than 10%.

Figure 2-6: Existing Peak Hour Traffic Volumes



3 FUTURE BACKGROUND TRANSPORTATION CONDITIONS

For the analysis of future background traffic conditions, this study considers a 6-year horizon from the existing year 2023 to the future year 2029. Future background conditions include traffic added to the network from other future developments, corridor growth, and road network improvements. The future background conditions will be used as the baseline for evaluating the impact of the proposed development.

3.1 BACKGROUND DEVELOPMENTS

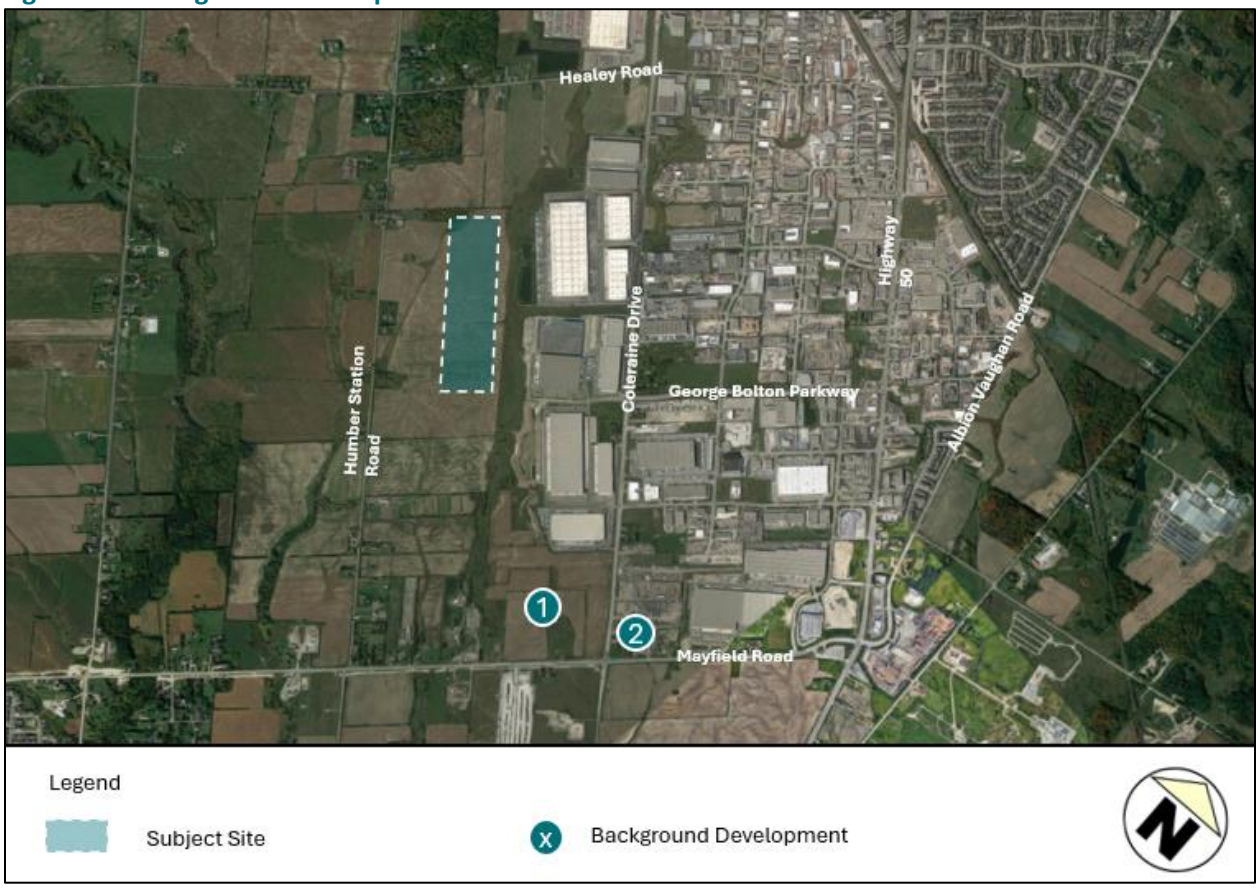
Two (2) background developments have been identified within the surrounding study area. Information on the background developments included in the analysis was obtained from the Town's development application online inventory. The background developments are summarized in **Table 3-1** with their location illustrated in **Figure 3-1**.

Table 3-1: Background Developments

#	Development	Statistics	Anticipated Horizon	Source
1	Triangle Lands	406,000 m^2 of industrial GFA	2029	LEA Estimate
2	Coleraine Drive & Mayfield Road Block Plan (South Simpson Landowners Group)	224,000 m^2 of industrial GFA	2029	LEA Estimate

As traffic studies were not available for the background developments, site traffic was estimated based on ITE Trip Generation rates and TTS trip distribution, and subsequently assigned to the study area. It was assumed that site accesses for the Triangle Lands and Coleraine Drive & Mayfield Road Block Plan development would occur along Mayfield Road. Detailed trip generation calculations for the background developments are provided in **Appendix C.**

Figure 3-1: Background Development Locations



3.2 CORRIDOR GROWTH

EMME plots from the Region of Peel's 2021, 2031, and 2041 Travel Demand Forecasting Model were used to determine corridor growth rates along major roads. **Table 3-2** summarizes the applied growth rates calculated between screenlines. Detailed corridor growth rate calculations are provided in **Appendix D**.

Table 3-2: Corridor Growth Summary

Corridor	Direction	Annual Growth Rate (AM/PM)
Humber Station Road	Northbound	2%
	Southbound	1%
Mayfield Road	Eastbound	3%
	Westbound	2%
Healey Road	Eastbound	3%
	Westbound	4%

3.3 PLANNED EXTERNAL ROAD NETWORK

There are several proposed and planned changes to the road network surrounding the subject site. The road network improvements considered are summarized in **Table 3-3**. Of note, based on correspondence with Regional staff (see **Appendix E**), it is understood that the widening of Mayfield Road from 2 to 6 lanes west of Humber Station Road and from 2 to 4 lanes between Humber Station Road and Highway 50 is

scheduled for construction starting 2026. As such, the completion of this improvement has been considered by the 2029 horizon year.

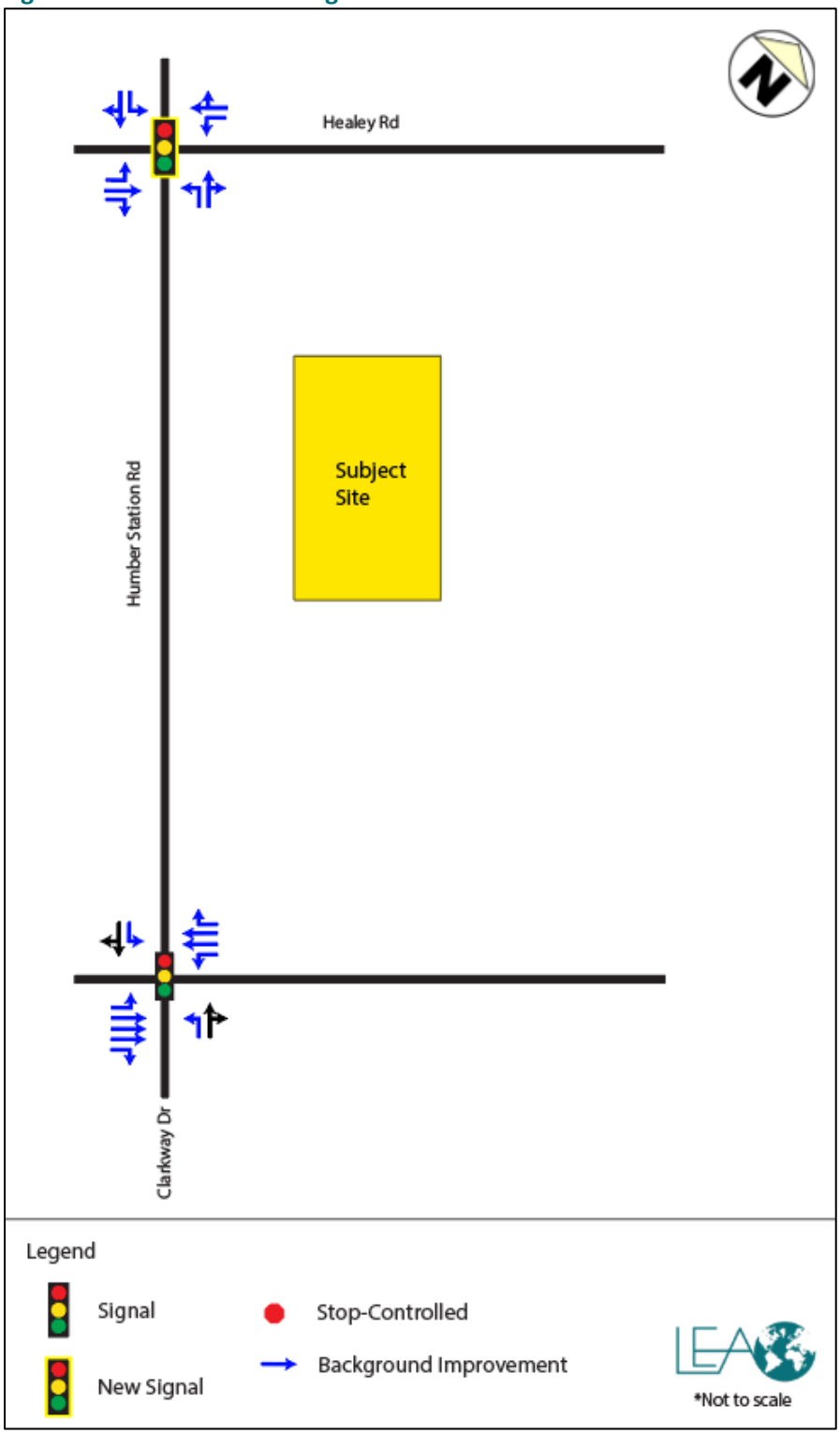
Table 3-3: Future Transportation Network Improvements

Roadway	Network Improvement	Horizon Year as per Policy Document	Included in Analysis?
Regional			
Mayfield Road	**Peel Region Long Range Transportation Plan** • Widening from 2 to 6 lanes, between Dixie Road and Humber Station Road • Widening from 2 to 4 lanes, between Humber Station Road and Highway 50	2031	Yes (1)
	Peel Region Long Range Transportation Plan • Widening from 4 to 6 lanes, between Humber Station Road and Coleraine Drive	2041	No
Local			
Humber Station Road	**Town of Caledon Transportation Master Plan** • Proposed signalization of Humber Station Road & Healey Road	2031	Yes (2)
	Town of Caledon Multi-Modal Transportation Master Plan • Widening from 2 to 4 lanes, between Highway 8 and Mayfield Road	2031	No
Healey Road	**Town of Caledon Transportation Master Plan** • Proposed signalization of Humber Station Road & Healey Road	2031	Yes (2)
	Town of Caledon Multi-Modal Transportation Master Plan • Widening from 2 to 4 lanes, between Heritage Road and Coleraine Drive	2031	No
George Bolton Parkway	**Town of Caledon Multi-Modal Transportation Master Plan** • 4-lane extension between Coleraine Drive and Humber Station Road	2031	Yes, to be built out partially, by the development proposal

Note: (1) – The widening of Mayfield Road from 2 to 6 lanes west of Humber Station Road and from 2 to 4 lanes between Humber Station Road and Highway 50 has been considered under the 2029 horizon year based on correspondence with the Region.
*(2) – Based on the capacity analysis results in **Section 6**, the signalization of Humber Station Road & Healey Road is recommended by the 2029 horizon year.*

Figure 3-2 illustrates the 2029 future background road network. Lane configurations Mayfield Road & Humber Station Road/Clarkway Road and Humber Station Road & Healey Road were based on required improvements from the intersection capacity analysis results in **Section 6**. It was assumed that the dedicated turn lanes would be implemented with the signalization of Humber Station Road & Healey Road and widening of Mayfield as part of future background improvements.

Figure 3-2: 2029 Future Background Road Network



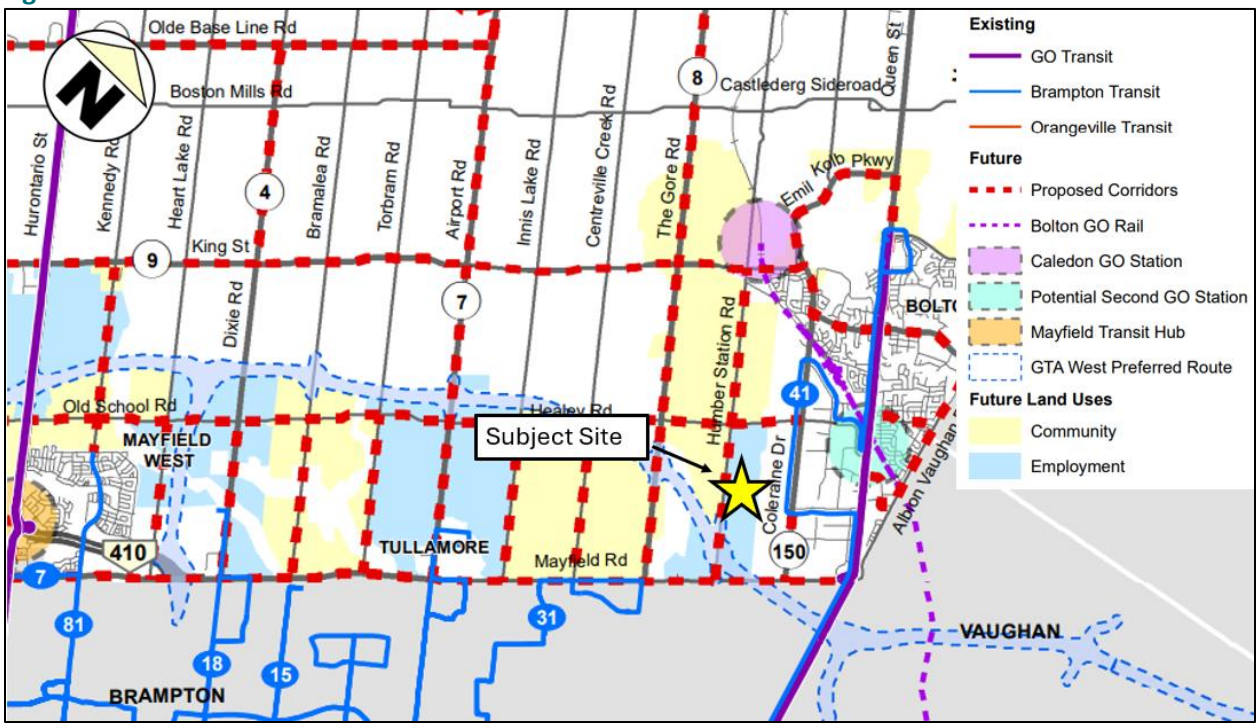
*Note: Lane configuration and traffic control for new intersections were based on required improvements from the intersection capacity analysis results in **Section 6.***

3.4 PLANNED TRANSIT AND ACTIVE TRANSPORTATION IMPROVEMENTS

As illustrated in **Figure 3-3**, the Town of Caledon's MMTMP proposes a future transit network including local transit routes along the Humber Station Employment Area boundary roadways and commuter rail service to connect the west side of Toronto to Vaughan and Caledon. The Bolton commuter rail corridor would include a planned Major Transit Station Area (MTSA) centered around the Caledon GO Station (planned at King Street & Humber Station Road). A second potential GO Station / MTSA is identified in the draft MMTMP along Highway 50 / Queen Street. This second GO Station would support new high density mixed-use transit-oriented communities. It is understood that this station will be further assessed as part of future secondary plan processes. Furthermore, a Highway 413 Transitway station is proposed at Mayfield Road & Humber Station Road. The transit corridor is expected to provide separated, exclusive access alongside the highway for public transit.

These nearby transit initiatives aim to expand transit reach to existing and proposed residential and employment land uses. Having more frequent and reliable transit service, as well as improving first/last mile initiatives to existing transit stops will enhance the multi-modal transportation network in the study area.

Figure 3-3: Future Transit Network



Source: Multi-Modal Transportation Master Plan (Town of Caledon, June 2024)

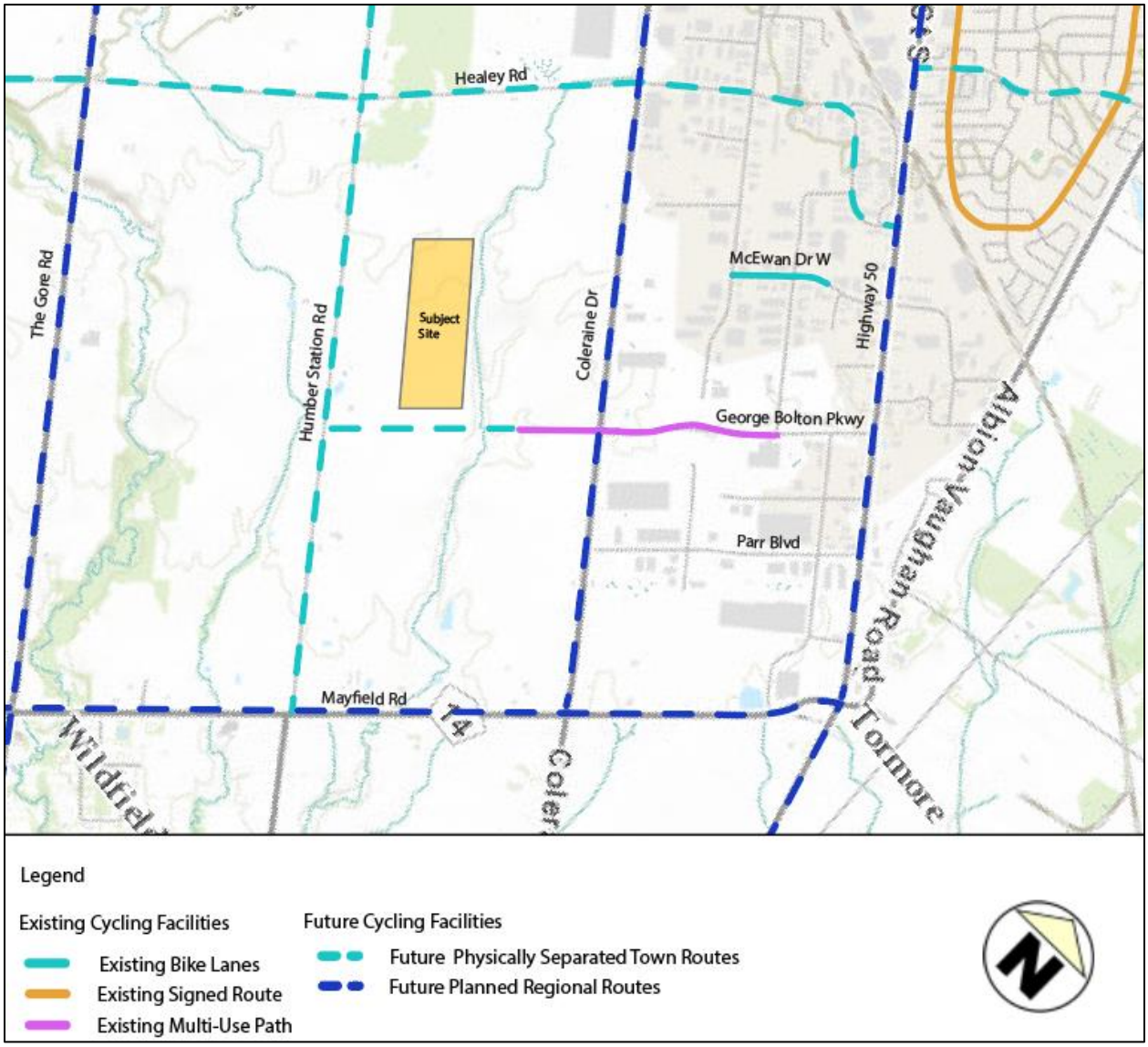
Improved pedestrian and cycling facilities are provisionally planned for all 3 surrounding roadways. The Town of Caledon's MMTMP proposes physically separated cycling facilities along Humber Station Road and Healey Road. Regional cycling facilities are also planned along Mayfield Road. These external facilities will serve as active transportation links to nearby neighbourhoods within the community.

As part of the development lands, George Bolton Parkway will extend from its existing terminal west of Coleraine Drive to Humber Station Road. The proposed active transportation facilities along the George

Bolton extension will be informed by the Town's MMTMP and evaluated as part of the EA for the George Bolton Parkway extension. The type of active transportation facility will be determined through this process and in consultation with any available standard cross-sections for industrial collector roads. The active transportation facilities along George Bolton will serve as the primary link to external facilities.

A conceptual diagram illustrating the future active transportation network informed by the Town and Region's TMP is provided in **Figure 3-4**.

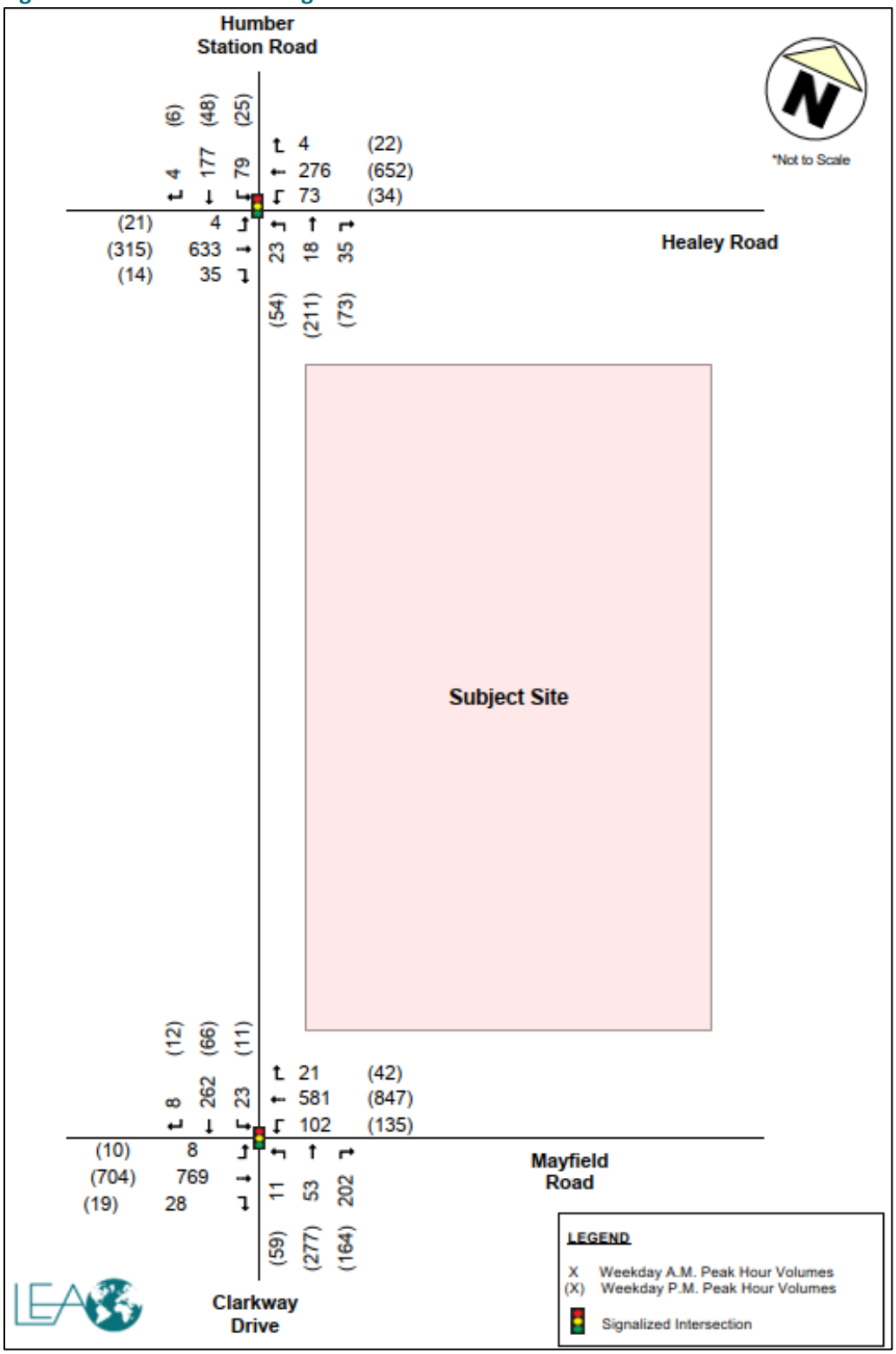
Figure 3-4: Future Active Transportation Network



3.5 FUTURE BACKGROUND TRAFFIC VOLUMES

The future background traffic volumes for the weekday AM and PM peak hours under the 2029 horizon year are illustrated in **Figure 3-5**.

Figure 3-5: 2029 Future Background Peak Hour Traffic Volumes



4 SITE-GENERATED TRAFFIC

Prologis Building 1 is being delivered first by the 2029 horizon year. Access to the proposed development will be provided via two (2) full-movement accesses off the George Bolton Parkway extension. The calculation, distribution, and assignment of future site generated trips are discussed below.

4.1 TRIP GENERATION

It is understood that warehousing activities are proposed for Building 1. As such, trip generation was estimated using average baseline auto and truck trip rates from the ITE Trip Generation Manual 11th Edition for ITE LUC 150 – Warehousing in General Urban/Suburban and based on the proposed industrial GFA of 143,222 m^2 (1,541,629 ft^2). The site trip generation is provided in **Table 4-1**.

Table 4-1: Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Building 1							
ITE LUC 150 – Warehousing 1,541,629 ft^2	Auto Trip Rate (/1000 ft^2)	0.13	0.04	0.17	0.05	0.13	0.18
	Total ITE Auto Trips	202	60	262	78	200	278
	Truck Trip Rate (/1000 ft^2)	0.01	0.01	0.02	0.02	0.01	0.03
	Total ITE Truck Trips	16	15	31	24	22	46
	External Auto Trips (100%)	**218**	**75**	**293**	**102**	**222**	**324**

The proposed development is anticipated to generate 262 two-way auto vehicle trips during the AM peak hour (202 inbound and 60 outbound) and 278 two-way auto vehicle trips during the PM peak hour (78 inbound and 200 outbound). In addition, 31 two-way truck trips (16 inbound and 15 outbound) are anticipated during the AM peak hour and 46 two-way truck trips (24 inbound and 22 outbound) are anticipated during the PM peak hour.

4.2 TRIP DISTRIBUTION AND ASSIGNMENT

The directional trip distribution of site traffic was derived using the 2016 TTS data filtered for trips originating in/destined to industrial areas during the AM and PM peak periods within Traffic Analysis Zones (TAZ) 3017 and 3191. Inbound and outbound distribution was based on the results of the peak hour for the peak direction (i.e., inbound direction based on AM in and outbound distribution based on PM out). Site traffic was assigned to the road network based on logical routing, turn restrictions, and changes in the future network.

The trip distribution for the proposed development is outlined in **Table 4-2**. Detailed TTS data is provided in **Appendix F**.

Table 4-2: Trip Distribution

Direction From/To	Expected Route	Industrial	
		Weekday AM/PM	
		In	Out
North	Humber Station Road	3%	0%
South	Clarkway Drive	18%	22%
East	Healey Road	20%	22%
	Mayfield Road	11%	9%
West	Healey Road	13%	16%
	Mayfield Road	35%	31%
Total		100%	100%

The site-generated traffic volumes for the weekday AM and PM peak hours under the 2029 horizon for the auto and truck trips are illustrated in **Figure 4-2** and **Figure 4-2**, respectively.

Figure 4-1: 2029 Site Generated Peak Hour Auto Traffic Volumes

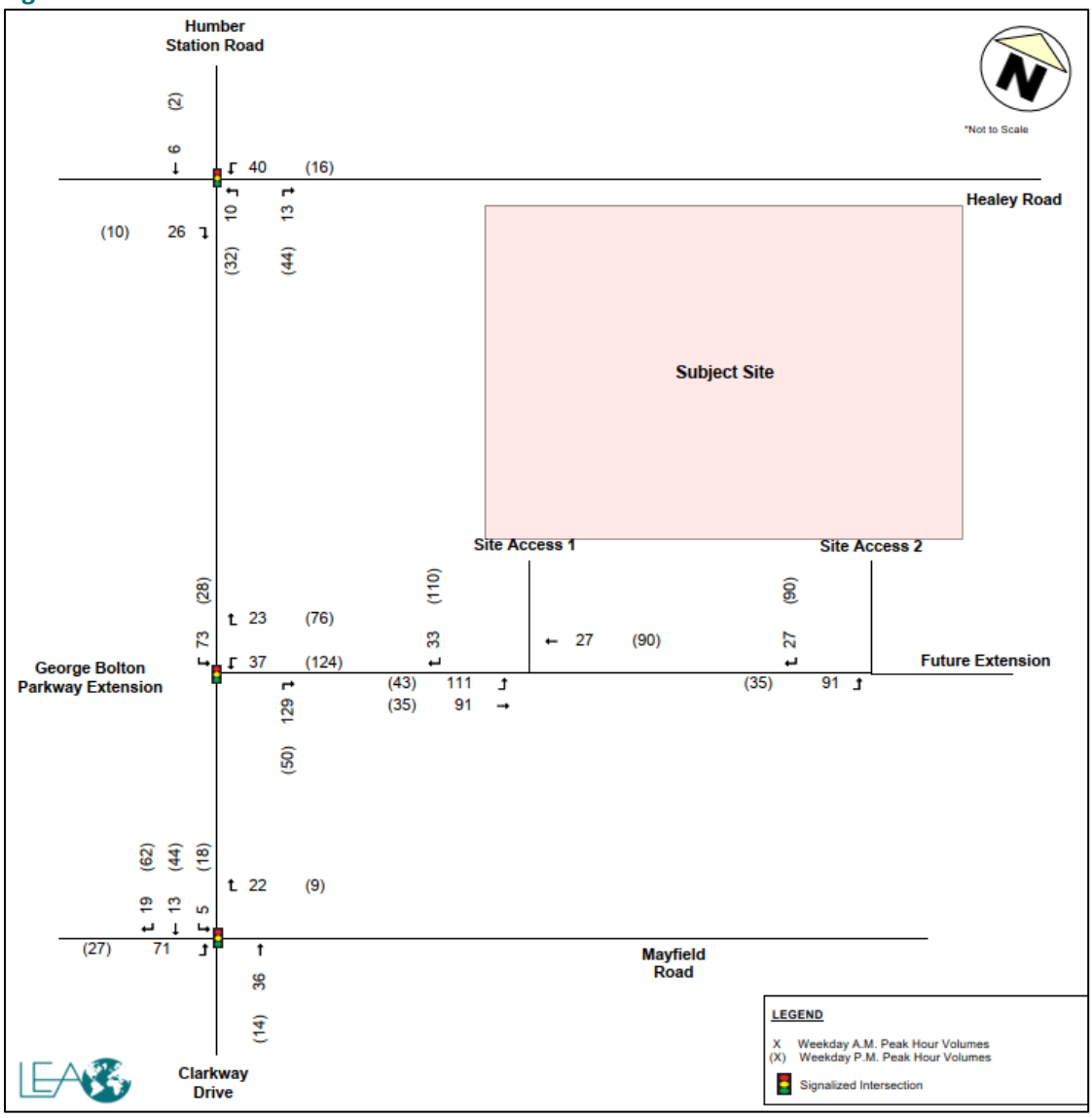
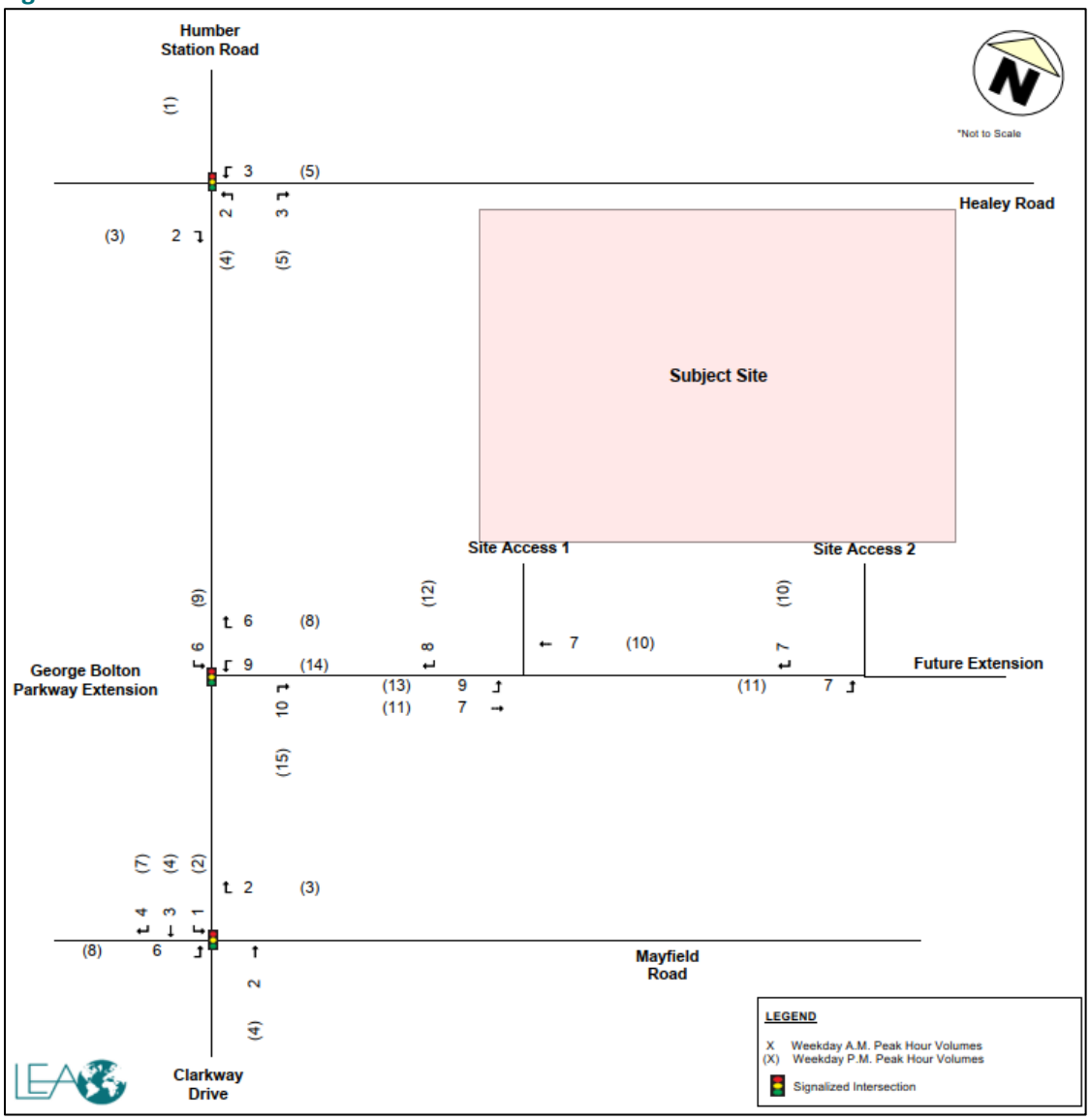


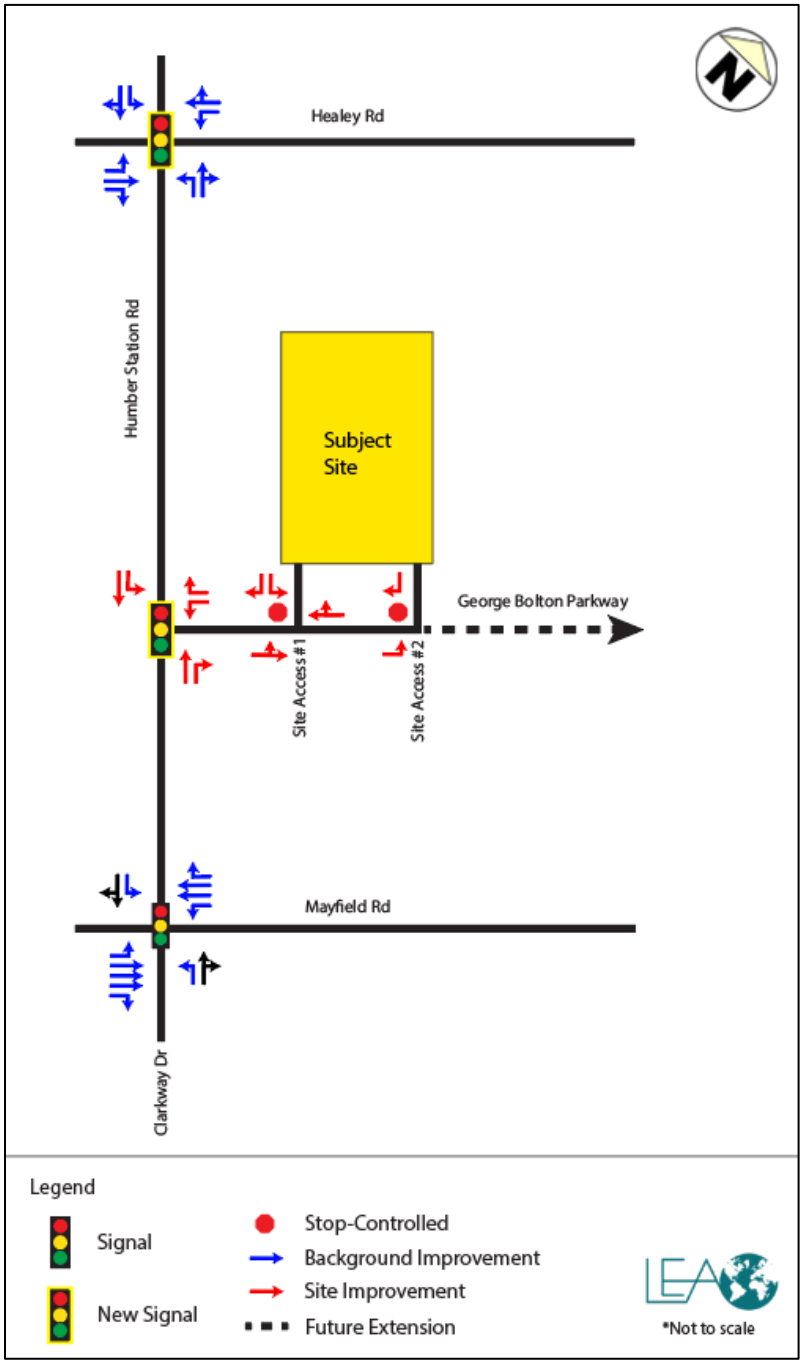
Figure 4-2: 2029 Site Generated Peak Hour Truck Traffic Volumes



5 FUTURE TOTAL TRANSPORTATION CONDITIONS

Future total traffic conditions include the addition of site vehicle trips to future background volumes. As part of the development proposal, a partial extension of George Bolton Parkway will be constructed from Humber Station Road to the Clarkway Tributary. **Figure 5-1** illustrates the future road network with the site accesses in place.

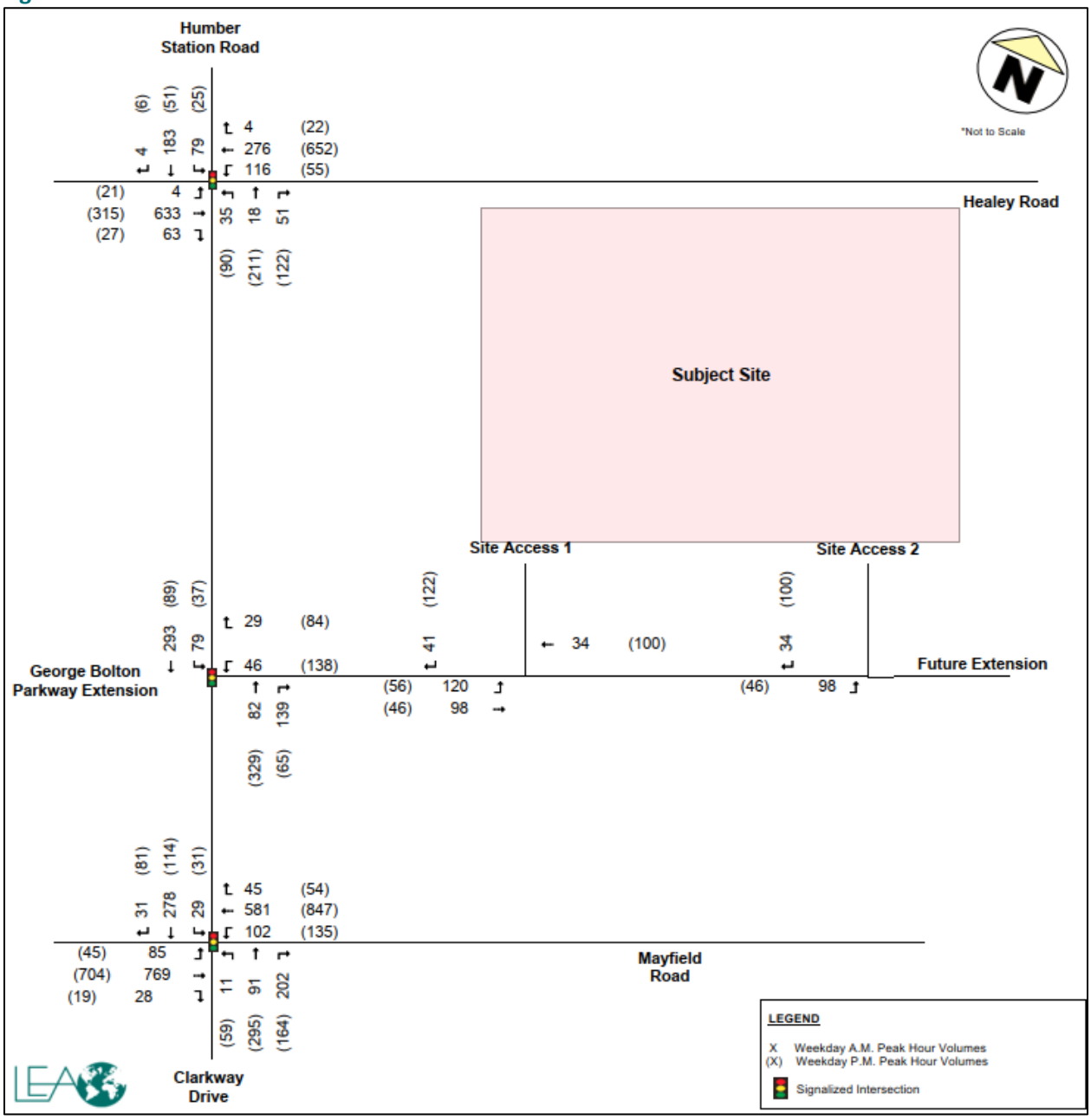
Figure 5-1: Future Road Network with Site Accesses



5.1 FUTURE TOTAL TRAFFIC VOLUMES

Future total traffic volumes during the weekday AM and PM peak hours under the 2029 horizon year are illustrated in **Figure 5-2**.

Figure 5-2: 2029 Future Total Peak Hour Traffic Volumes



6 INTERSECTION CAPACITY ANALYSIS

The intersection capacity analysis was undertaken using Synchro 11.0, which is based on the Highway Capacity Manual (HCM) (2000) and adheres to the Town of Caledon's Transportation Impact Studies Terms of Reference and Guidelines dated March 2017. HCM 2000 and 6 results are presented for signalized and unsignalized study intersections, respectively. As per the Town of Caledon guidelines, critical movements of interest for signalized intersections were identified as those with a volume-to-capacity (v/c) ratio greater than 0.90 for overall intersection operations, through movements or shared through/turning movements and a v/c ratio greater than 1.00 for exclusive turning movements. For unsignalized intersections, critical movements were identified as those with a level-of-service (LOS) 'E' or greater. LOS definitions are included in **Appendix G**.

6.1 EXISTING SYNCHRO MODEL INPUTS

Existing traffic operations were assessed to provide a baseline for future traffic operations and identify intersections currently experiencing capacity constraints. The existing analysis incorporates the most recent signal timing plans for the study intersections. The applied Peak Hour Factor (PHF) values were calculated based on surveyed counts.

6.2 FUTURE BACKGROUND SYNCHRO MODEL INPUTS

Input parameters from the existing scenario were maintained with corresponding future background volumes, with the exception of the following changes:

- Clarkway Drive/Humber Station Road & Mayfield Road
  - Optimized splits during the AM and PM peak hours while maintaining the overall cycle length of 120 seconds.
  - Lane configuration changed to accommodate the widening of Mayfield Road, with the introduction of 3 eastbound through lanes and 2 westbound through lanes. Exclusive left and right-turning lanes were also added for the westbound and eastbound directions, as well as and exclusive left turning lanes for the northbound and southbound directions.
- Humber Station Road & Healey Road
  - New signalized intersection under the 2029 horizon year.
  - Lane configuration changed to accommodate signalization. Lane configuration changed with the introduction of exclusive left-turning lanes for all directions.

6.3 FUTURE TOTAL SYNCHRO MODEL INPUTS

Input parameters from the existing and future background scenarios were maintained with corresponding future total volumes, with the exception of the following changes:

- Humber Station Road & George Bolton Parkway Extension

- New intersection to facilitate access for the subject site. The intersection is recommended as a signalized intersection under the 2029 horizon year. Partial buildout of the George Bolton Parkway extension was assumed to accommodate access to the subject site.

- George Bolton Parkway & Site Access 1
  - New unsignalized intersection to facilitate access for the subject site.
- George Bolton Parkway & Site Access 2
  - New unsignalized intersection to facilitate access for the subject site.

The following sections outline a comparison of the capacity analysis results under existing, future background, and future total conditions. Detailed capacity analysis results are provided in the following appendices:

- **Appendix H:** Existing Intersection Capacity Analysis;
- **Appendix I:** 2029 Future Background Intersection Capacity Analysis; and
- **Appendix J:** 2029 Future Total Intersection Capacity Analysis.

6.4 EXISTING SIGNALIZED INTERSECTIONS

The results for the existing signalized intersections under each traffic scenario during the weekday AM and PM peak hours are summarized in the sections below.

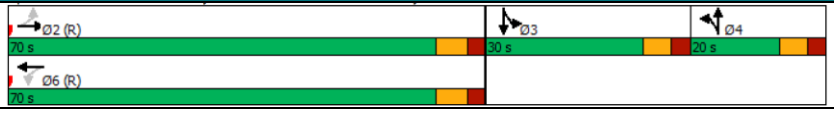
6.4.1 Clarkway Drive/Humber Station Road & Mayfield Road

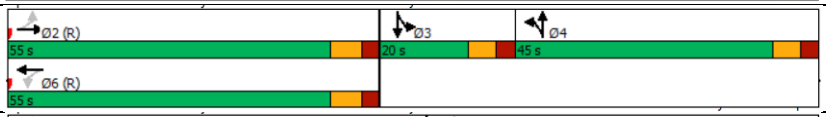
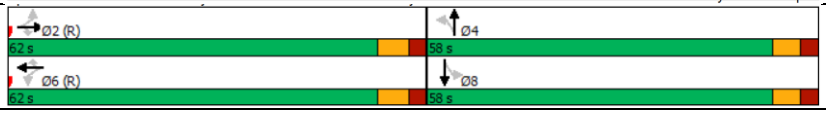
As per the Peel Region Long Range Transportation Plan (2019), Mayfield Road is planned to be widened from 2 to 6 lanes west of Humber Station Road and from 2 to 4 lanes between Humber Station Road and Highway 50 by 2031. However, based on correspondence with Peel Region staff, it is understood that this improvement is scheduled for construction starting 2026. It is further understood that the widening of Mayfield Road will include realignment of the north and south legs of Humber Station Road to eliminate the existing jogged intersection and split phasing. As such, completion of these improvements has been incorporated into the analysis by the 2029 horizon year.

As per the Mayfield Road Improvement Class Environment Assessment (April 2013), exclusive left- and right-turning lanes for the westbound and eastbound directions, and exclusive left turning lanes for the northbound and southbound directions have been included in the analysis.

To reflect the realignment of Humber Station Road and removal of the existing split phasing, optimized signal timing plans were applied during both peak hours while maintaining the overall cycle length. The signal timing optimizations for the future horizons are summarized in **Table 6-1**.

Table 6-1: Signal Timing Optimizations, Clarkway Drive/Humber Station Road & Mayfield Road

Horizon	Cycle Length (s)	Signal Timing
Existing Weekday AM	120	

Horizon	Cycle Length (s)	Signal Timing
2029 Weekday AM (Optimized)	120	
Existing Weekday PM	120	
2029 Weekday PM (Optimized)	120	

The intersection capacity analysis at Clarkway Drive/Humber Station Road & Mayfield Road under the 2029 horizon year is summarized in **Table 6-2** for the weekday AM and PM peak hours.

Table 6-2: Capacity Analysis, Clarkway Drive/Humber Station Road & Mayfield Road (2029)

AM PEAK	Existing Traffic (2023)				Future Background (2029 - Optimized)				Future Total (2029 - Optimized)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-	0.81	D (41)	-/-	-	-	B (19)	-/-	-	-	C (20)	-/-
EBL	559	0.71	C (27)	106/153	8	0.02	B (10)	1/3	85	0.19	B (14)	8/20
EBT					769	0.26	A (8)	26/39	769	0.27	A (9)	28/43
EBR					28	0.03	A (7)	0/3	28	0.04	A (8)	0/3
WBL	541	0.78	C (32)	110/165	102	0.24	B (13)	9/23	102	0.25	B (15)	10/26
WBT					581	0.29	A (8)	28/46	581	0.30	A (10)	31/51
WBR					21	0.02	A (7)	0/2	45	0.05	A (8)	0/5
NBL	170	0.88	F (86)	44/92	11	0.09	D (53)	2/7	11	0.09	D (53)	2/7
NBTR					255	0.78	D (49)	27/51	293	0.78	D (47)	46/72
SBL	257	0.83	E (64)	63/101	23	0.21	E (56)	6/15	29	0.24	E (55)	7/17
SBTR					270	0.72	D (47)	72/99	309	0.74	D (45)	82/111
PM PEAK	Existing Traffic (2023)				Future Background (2029 - Optimized)				Future Total (2029 - Optimized)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-	0.92	D (52)	-/-	-	-	C (22)	-/-	-	-	C (24)	-/-
EBL	556	0.74	C (32)	118/199	10	0.03	B (18)	1/5	45	0.18	C (25)	5/16
EBT					704	0.26	B (12)	31/48	704	0.27	B (14)	33/50
EBR					19	0.02	B (10)	0/2	19	0.03	B (12)	0/2
WBL	701	0.99	E (64)	195/290	135	0.35	C (21)	18/44	135	0.37	C (23)	19/45
WBT					847	0.41	B (14)	60/93	847	0.47	B (16)	65/100
WBR					42	0.05	B (11)	0/6	54	0.07	B (12)	0/7
NBL	413	0.87	E (58)	99/136	59	0.17	C (35)	11/20	59	0.21	D (38)	11/20
NBTR					441	0.88	D (49)	99/123	459	0.85	D (46)	103/128
SBL	74	0.57	E (60)	18/34	11	0.11	E (56)	2/6	31	0.28	E (56)	7/19
SBTR					78	0.15	C (32)	14/25	195	0.37	C (32)	50/73

Existing Conditions: The signalized intersection operates within capacity, with acceptable delays and an overall LOS of 'D' during both weekday AM and PM peak hours. The NBLTR movement during the AM peak hour experiences some delay and a LOS of 'F'; however, operates with residual capacity. During the PM

peak hour, the overall intersection operates with a v/c above 0.90. Notably, the WBLTR movement is approaching capacity and operating with a LOS of 'E'. It should be noted that these conditions improve under future conditions as a result of widening on Mayfield Road from 2 to 6 lanes west of Humber Station Road and from 2 to 4 lanes east of Humber Station Road.

Future Background Conditions: With signal optimization and widening of Mayfield Road, the intersection operates acceptably under future background conditions with acceptable delays and an overall LOS of 'C' or better during both peak hours. No critical movements have been identified.

Future Total Conditions: The intersection is expected to experience some increase in delays and v/c ratios when compared to future background conditions. The addition of site traffic is expected to have an acceptable impact on intersection operations. No traffic constraints have been identified as a result of site traffic.

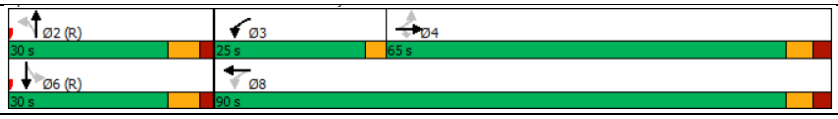
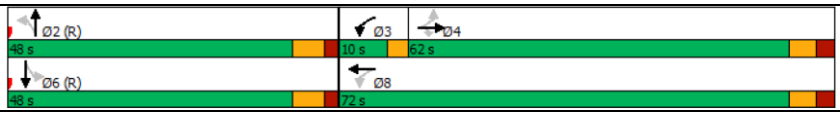
6.5 FUTURE SIGNALIZED INTERSECTIONS

The results for the future signalized intersections under each traffic scenario during the weekday AM and PM peak hours are summarized in the sections below.

6.5.1 Humber Station Road & Healey Road

As per *Town of Caledon Transportation Master Plan (2017)*, Humber Station Road & Healey Road is planned to be signalized by 2031. However, this improvement was applied under the 2029 horizon year to accommodate future traffic volumes. The recommended signal timing plan under future conditions is summarized in **Table 6-3**. Furthermore, exclusive left-turning lanes are recommended for all directions.

Table 6-3: Recommended Timing Plan, Humber Station Road & Healey Road

Horizon	Cycle Length (s)	Signal Timing Modifications
Existing Weekday AM	-	-
2029 Weekday AM (New)	120	
Existing Weekday PM	-	-
2029 Weekday PM (New)	120	

The intersection capacity analysis at Humber Station Road & Healey Road under the 2029 horizon year is summarized in **Table 6-4** for the weekday AM and PM peak hours.

Table 6-4: Capacity Analysis, Humber Station Road & Healey Road (2029)

AM PEAK	Existing Traffic (2023)				Future Background (2029 - New)				Future Total (2029 - New)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	See Section 6.6.1				-	-	C (32)	-/-	-	-	C (32)	-/-
EBL					4	0.01	C (23)	1/2	4	0.01	C (21)	1/2
EBT					633	0.90	D (44)	146/177	633	0.90	D (44)	146/177
EBR					35	0.06	C (22)	0/4	63	0.11	C (22)	2/9
WBL					73	0.45	C (29)	9/14	116	0.61	C (30)	14/22
WBTR					280	0.34	B (20)	38/46	280	0.32	B (18)	36/44
NBL					23	0.05	C (24)	5/13	35	0.09	C (26)	7/16
NBTR					53	0.08	B (19)	4/15	69	0.10	C (21)	4/15
SBL					79	0.14	C (22)	14/30	79	0.15	C (24)	15/31
SBTR					181	0.23	C (21)	33/58	187	0.25	C (23)	36/62
PM PEAK	Existing Traffic (2023)				Future Background (2029 - New)				Future Total (2029 - New)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	See Section 6.6.1				-	-	C (32)	-/-	-	-	C (32)	-/-
EBL					21	0.20	D (55)	4/9	21	0.20	D (55)	4/9
EBT					315	0.50	C (32)	59/74	315	0.51	C (32)	59/74
EBR					14	0.03	C (26)	0/0	27	0.06	C (27)	0/2
WBL					34	0.11	C (24)	5/9	55	0.19	C (25)	8/13
WBTR					674	0.90	D (41)	142/163	674	0.90	D (41)	142/163
NBL					54	0.08	B (16)	12/25	90	0.14	B (17)	18/32
NBTR					284	0.32	B (18)	68/99	333	0.38	B (19)	69/97
SBL					25	0.05	C (21)	4/11	25	0.06	C (23)	4/11
SBTR					54	0.06	B (15)	7/17	57	0.06	B (15)	7/18

Future Background Conditions: With signalization, the intersection operates within capacity, with acceptable delays and an overall LOS of 'C' during both peak hours. No constraints have been identified.

Future Total Conditions: Minor increases in delay and v/c ratio are expected under futural total conditions compared to future background conditions during both weekday peak hours. No constraints have been identified as a result of site traffic.

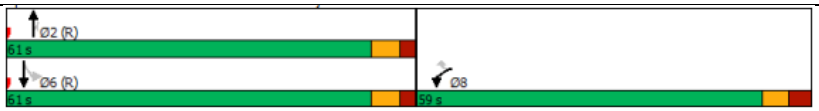
6.5.2 Humber Station Road & George Bolton Parkway Extension

Of note, the future intersection of George Bolton Parkway & Humber Station Road Extension is proposed as a full movements signalized intersection by the 2029 horizon. The recommended signal timing plan under future conditions is summarized in **Table 6-5**.

As per the *Town of Caledon's Multi-Modal Transportation Master Plan (2024),* George Bolton Parkway is planned as a 4-lane connection from Humber Station Road to Coleraine Drive by 2031. However, the 2029 horizon includes the partial buildout of George Bolton Parkway to facilitate access for the subject site.

To understand the minimum road network required to service the lands, George Bolton Parkway was analyzed as a 2-lane cross-section. A sensitivity analysis is provided in **Section 7** detailing operations for George Bolton Parkway as 4-lanes.

Table 6-5: Recommended Timing Plan, Humber Station Road & George Bolton Parkway Extension

Horizon	Cycle Length (s)	Signal Timing
Existing Weekday AM	-	-
2029 Weekday AM (New)		
Existing Weekday PM	-	-
2029 Weekday PM (New)		

The intersection capacity analysis at Humber Station Road & George Bolton Parkway extension under the 2029 and horizon year are summarized in **Table 6-6** for the weekday AM and PM peak hours.

Table 6-6: Capacity Analysis, Humber Station Road & George Bolton Parkway Extension (2029)

AM PEAK	Existing Traffic (2023)				Future Background (2029)				Future Total (2029 - New)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-				-				-	-	A (9)	-/-
WBL									46	0.29	D (52)	11/23
WBR									29	0.24	D (52)	0/10
NBT									82	0.06	A (3)	3/9
NBR									139	0.12	A (3)	0/7
SBL									79	0.09	A (3)	2/10
SBT									293	0.20	A (3)	10/28
PM PEAK	**Existing Traffic (2023)**				**Future Background (2029)**				**Future Total (2029 - New)**			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-				-				-	-	B (20)	-/-
WBL									138	0.79	E (60)	33/52
WBR									84	0.54	D (53)	0/14
NBT									329	0.23	A (4)	10/24
NBR									65	0.07	A (3)	0/2
SBL									37	0.06	A (5)	3/9
SBT									89	0.06	A (3)	8/16

Future Total Conditions: With signalization, the intersection is expected to operate well within capacity and with acceptable delays during both peak hours. No constraints have been identified as a result of site traffic.

6.6 EXISTING UNSIGNALIZED INTERSECTIONS

The results for the studied existing unsignalized intersections under each traffic scenario during the weekday AM and PM peak hours are summarized in the sections below.

6.6.1 Humber Station Road & Healey Road

As previously mentioned, signalization of Humber Station Road & Healey Road is recommended in 2029. As such, only the existing intersection operations are provided below in **Table 6-7** for the weekday AM and PM peak hours.

Table 6-7: Capacity Analysis, Humber Station Road & Healey Road (Existing)

AM	Existing Conditions (2023)			
Mvmt	Vol	V/C	Delay (LOS)	Queue 95th
EBLTR	522	0.87	34 (D)	-
WBLTR	287	0.51	15 (C)	-
NBLTR	53	0.11	11 (B)	-
SBLTR	238	0.46	15 (C)	-
PM	Existing Conditions (2023)			
Mvmt	Vol	V/C	Delay (LOS)	Queue 95th
EBLTR	274	0.48	15 (B)	-
WBLTR	552	0.89	38 (E)	-
NBLTR	268	0.49	16 (C)	-
SBLTR	70	0.14	11 (B)	-

Existing Conditions: All movements at the unsignalized intersection operate within capacity and with acceptable delays during both weekday AM and PM peak hours. No critical movements have been identified.

6.7 FUTURE UNSIGNALIZED INTERSECTIONS

The results for the studied future unsignalized intersections under each traffic scenario during the weekday AM and PM peak hours are summarized in the sections below.

6.7.1 George Bolton Parkway Extension & Subject Site Access 1

The intersection capacity analysis at George Bolton Parkway Extension & Subject Site Access 1 under the 2029 and horizon year is summarized in **Table 6-8** for the weekday AM and PM peak hours.

Table 6-8: Capacity Analysis, George Bolton Parkway Extension & Subject Site Access 1 (2029)

AM PEAK	Existing Traffic (2023)				Future Background (2029)				Future Total (2029 - New)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-				-				-	-	- (4)	-/-
EBL									120	0.09	A (8)	-/0
EBT									98	0.00	A (0)	-/0
WBT									34	0.00	(0)	-/0
SBL									0	0.00	A (0)	-/0
SBR									41	0.04	A (9)	-/0
PM PEAK	Existing Traffic (2023)				Future Background (2029)				Future Total (2029 - New)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-				-				-	-	- (5)	-/-
EBL									56	0.05	A (8)	-/0
EBT									46	0.00	A (0)	-/0
WBT									100	0.00	(0)	-/0
SBL									0	0.00	A (0)	-/0
SBR									122	0.14	A (10)	-/1

Future Total Conditions: Site Access 1 is expected to operate well within capacity and with acceptable delays during both peak hours. No constraints have been identified as a result of site traffic.

6.7.2 George Bolton Parkway Extension & Subject Site Access 2

The intersection capacity analysis at George Bolton Parkway Extension & Subject Site Access 2 under the 2029 and horizon year is summarized in **Table 6-9** for the weekday AM and PM peak hours.

Table 6-9: Capacity Analysis, George Bolton Parkway Extension & Subject Site Access 2 (2029)

AM PEAK	Existing Traffic (2023)				Future Background (2029)				Future Total (2029 - New)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-				-				-	-	- (8)	-/-
EBL									98	0.07	A (7)	-/0
EBT									0	0.00	A (0)	-/0
WBT									0	0.00	(0)	-/0
SBR									34	0.04	A (9)	-/0
PM PEAK	Existing Traffic (2023)				Future Background (2029)				Future Total (2029 - New)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-				-				-	-	- (8)	-/-
EBL									46	0.03	A (8)	-/0
EBT									0	0.00	A (0)	-/0
WBT									0	0.00	(0)	-/0
SBR									100	0.10	A (9)	-/0

Future Total Conditions: Site Access 2 is expected to operate well within capacity and with acceptable delays during both peak hours. No constraints have been identified as a result of site traffic.

6.8 SUMMARY OF INTERSECTION CAPACITY ANALYSIS RESULTS

With signal optimizations, the realignment of the Clarkway Drive/Humber Station Road & Mayfield Road intersection, and planned widenings along Mayfield Road, the intersection capacity analysis results indicate that site traffic is expected to have an acceptable impact on the surrounding road network. In addition, the proposed site accesses to the subject site are expected to operate sufficiently under future conditions. Furthermore, signalization is recommended at Humber Station Road & Healey Road by the 2029 horizon to accommodate future traffic growth, a recommendation which is irrespective of site traffic given that the intersection operates poorly under future background conditions. Overall, the subject site is expected to have an acceptable impact on the road network operations in the surrounding area.

7 SENSITIVITY ANALYSIS

The intersection capacity analysis undertaken in **Section 6** assumed a 2-lane cross-section for George Bolton Parkway to understand the minimum road network improvements required to service the subject site. It is understood that as per the *Town of Caledon's Multi-Modal Transportation Master Plan (2024),* George Bolton Parkway is planned as a 4-lane connection. As such, the following sensitivity analysis has been prepared to compare the traffic operations between a George Bolton Parkway extension as 2 lanes vs. 4 lanes. The following intersections were included in the sensitivity analysis:

- Humber Station Road & George Bolton Parkway Extension;
- George Bolton Parkway Extension & Subject Site Access 1; and
- George Bolton Parkway Extension & Subject Site Access 2.

Figure 7-1 and **Figure 7-2** illustrate the lane configurations assumed under each scenario.

Figure 7-1: George Bolton Parkway Extension (2-lanes) Lane Configuration

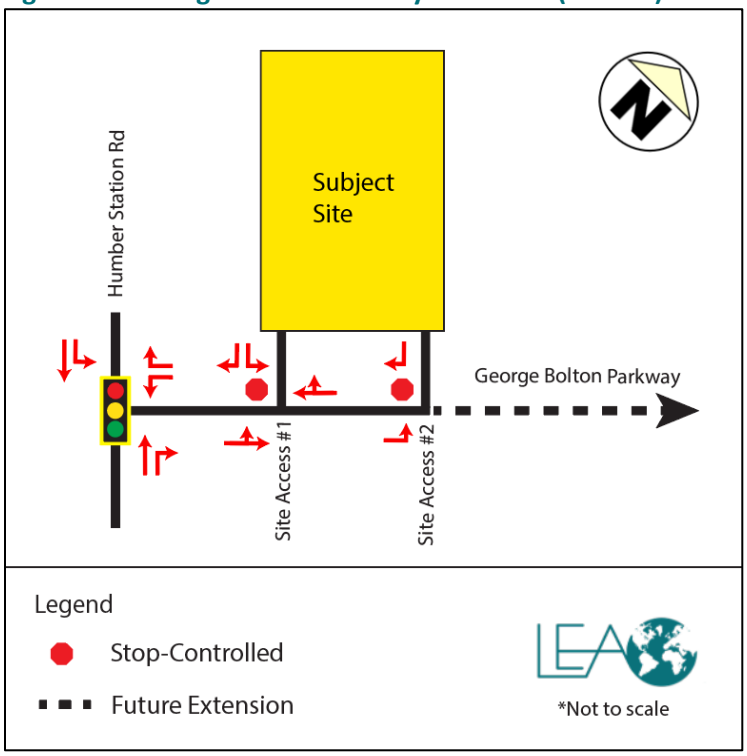
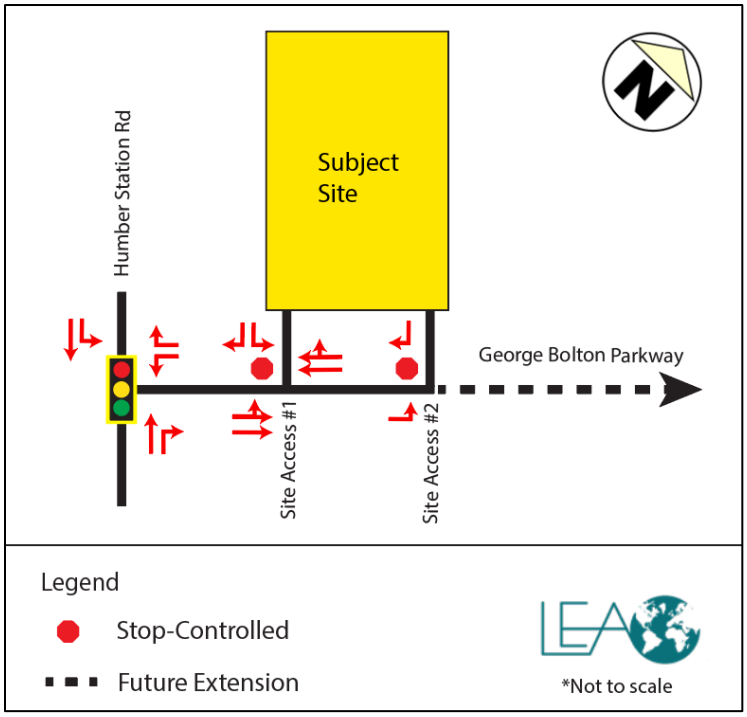


Figure 7-2: George Bolton Parkway Extension (4-lanes) Lane Configuration



A comparison of the intersection capacity analysis between the 2-lane vs. 4-lane George Bolton Parkway extension for the intersection of Humber Station Road & George Bolton Parkway Extension is provided in **Table 7-1**. Detailed synchro results are provided in **Appendix K**.

Table 7-1: Sensitivity Analysis – Humber Station Road & George Bolton Parkway Extension (2029)

AM PEAK	George Bolton Parkway (2-lanes) Future Total (2029)				George Bolton Parkway (4-lanes) Sensitivity Future Total (2029)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-	-	A (9)	-/-	-	-	A (9)	-/-
WBL	46	0.29	D (52)	11/23	46	0.29	D (52)	11/23
WBR	29	0.24	D (52)	0/10	29	0.24	D (52)	0/10
NBT	82	0.06	A (3)	3/9	82	0.06	A (3)	3/9
NBR	139	0.12	A (3)	0/7	139	0.12	A (3)	0/7
SBL	79	0.09	A (3)	2/10	79	0.09	A (3)	2/10
SBT	293	0.20	A (3)	10/28	293	0.20	A (3)	10/28
PM PEAK	George Bolton Parkway (2-lanes) Future Total (2029)				George Bolton Parkway (4-lanes) Sensitivity Future Total (2029)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-	-	B (20)	-/-	-	-	B (20)	-/-
WBL	138	0.79	E (60)	33/52	138	0.79	E (60)	33/52
WBR	84	0.54	D (53)	0/14	84	0.54	D (53)	0/14
NBT	329	0.23	A (4)	10/24	329	0.23	A (4)	10/24
NBR	65	0.07	A (3)	0/2	65	0.07	A (3)	0/2
SBL	37	0.06	A (5)	3/9	37	0.06	A (5)	3/9
SBT	89	0.06	A (3)	8/16	89	0.06	A (3)	8/16

A comparison of the intersection capacity analysis between the 2-lane vs. 4-lane George Bolton Parkway extension for Site Access 1 and Site Access 2 are provided in **Table 7-2** and **Table 7-3**, respectively.

Table 7-2: Sensitivity Analysis –George Bolton Parkway Extension & Site Access 1 (2029)

AM PEAK	George Bolton Parkway (2-lanes) Future Total (2029)				George Bolton Parkway (4-lanes) Sensitivity Future Total (2029)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-	-	- (4)	-/-	-	-	- (4)	-/-
EBL	120	0.09	A (8)	-/0	120	0.09	A (8)	-/0
EBT	98	0.00	A (0)	-/0	98	0.00	A (0)	-/0
WBT	34	0.00	(0)	-/0	34	0.00	(0)	-/0
SBL	0	0.00	A (0)	-/0	0	0.00	A (0)	-/0
SBR	41	0.04	A (9)	-/0	41	0.04	A (9)	-/0
PM PEAK	George Bolton Parkway (2-lanes) Future Total (2029)				George Bolton Parkway (4-lanes) Sensitivity Future Total (2029)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-	-	- (5)	-/-	-	-	- (5)	-/-
EBL	56	0.05	A (8)	-/0	56	0.05	A (8)	-/0
EBT	46	0.00	A (0)	-/0	46	0.00	A (0)	-/0
WBT	100	0.00	(0)	-/0	100	0.00	(0)	-/0

SBL	0	0.00	A (0)	-/0	0	0.00	A (0)	-/0
SBR	122	0.14	A (10)	-/1	122	0.14	A (9)	-/1

Table 7-3: Sensitivity Analysis – Humber Station Road & Site Access 2 (2029)

AM PEAK	George Bolton Parkway (2-lanes) Future Total (2029)				George Bolton Parkway (4-lanes) Sensitivity Future Total (2029)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-	-	- (8)	-/-	-	-	- (8)	-/-
EBL	98	0.07	A (7)	-/0	98	0.07	A (7)	-/0
EBT	0	0.00	A (0)	-/0	0	0.00	A (0)	-/0
WBT	0	0.00	(0)	-/0	0	0.00	(0)	-/0
SBR	34	0.04	A (9)	-/0	34	0.04	A (9)	-/0
PM PEAK	George Bolton Parkway (2-lanes) Future Total (2029)				George Bolton Parkway (4-lanes) Sensitivity Future Total (2029)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95)	Vol	V/C	LOS (Delay)	Queues (50/95)
Overall	-	-	- (8)	-/-	-	-	- (8)	-/-
EBL	46	0.03	A (8)	-/0	46	0.03	A (8)	-/0
EBT	0	0.00	A (0)	-/0	0	0.00	A (0)	-/0
WBT	0	0.00	(0)	-/0	0	0.00	(0)	-/0
SBR	100	0.10	A (9)	-/0	100	0.10	A (9)	-/0

Based on the sensitivity analysis above, all three (3) intersections along George Bolton Parkway Extension operate the same with a 2-lane or 4-lane George Bolton cross-section.

8 PARKING AND LOADING REVIEW

8.1 VEHICULAR PARKING REVIEW

The vehicle parking requirements for the proposed industrial development is subject to standards provided within the Town of Caledon Zoning By-law 2006-50, *Section 5 - Parking, Loading and Delivery (Section 5.2.3 - Non-Residential Parking Requirements, Revised: July 20, 2023).* It should be noted that the proposed net floor area (NFA) is 122,107 which excludes the 260 loading docks and their interior loading areas. The parking requirements and proposed supply are summarized in **Table 8-1**.

Table 8-1: Town of Caledon Zoning By-law 2006-50 Parking Requirement

Building	Land Use	NFA	Town of Caledon ZBL 2006-50		Proposed Supply
			Parking Standard	Parking Required (1)	
1	Warehouse (>20,000 m^2)	122,107 m^2	168 spaces + 1 per 170 m^2 of NFA over 20,000 m^2	769	681
			Total	769	681
			Parking Rate (spaces per 100 m^2)	0.63	0.56

Note: (1) – According to Town of Caledon By-law 2006-50, Section 5.2.4, where the minimum number of parking, loading or delivery spaces is calculated on the basis of a rate or ratio, the required number of parking, loading or delivery spaces shall be rounded to the next higher whole number.

Based on the minimum parking requirements under the Town of Caledon By-law 2006-50, the proposed development is required to provide a total of 769 parking spaces. The proposed supply of 681 parking spaces does not satisfy the by-law requirements. As the deficiency is only 11%, the reduction will be addressed in the proposed site-specific by-law.

8.1.1 Accessible Parking

By-law 2015-058 stipulates a requirement for accessible parking spaces. If the number of required parking spaces is between 201 to 1,000 spaces, a minimum of 2 plus 2% of the total required parking spaces should be accessible. Parking spaces must comply with the minimum dimensions for an accessible parking space (Type A: 3.4 m in width, 6 m in length, and 3.0 m in vertical clearance, Type B: 2.75 m in width, 6 m in length, and 3.0 m in vertical clearance).

As the development is required to provide 769 total parking spaces, the number of accessible spaces required is 18. The site plan currently shows a total of 20 accessible parking spaces, satisfying the requirement.

8.2 BICYCLE PARKING REVIEW

The Town of Caledon Zoning By-law 2006-50 does not include bicycle parking requirements. However, short-term bicycle parking spaces will be provided to encourage biking as a mode of transportation. The bike parking supply will follow the short-term bicycle parking requirements for industrial uses from Peel Region's Healthy Development Assessment.

8.3 LOADING REVIEW

The loading requirements are subject to Town of Caledon Zoning By-law 2006-50, *Section 5 - Parking, Loading and Delivery (Section 5.3.2 – Loading Space Requirements, Revised: July 20, 2023).* The loading space requirements referenced in Section 5.3.2 of the By-law was applied to the proposed development as summarized in **Table 8-2**.

Table 8-2: Town of Caledon Zoning By-law 2006-50 Loading Requirement

Building	Land Use	NFA	Town of Caledon ZBL 2006-50		Proposed Supply
			Parking Standard	Parking Required (1)	
1	Warehouse (>7,441 m^2)	122,107 m^2	3 spaces + 1 per 9,300 m^2 of NFA over 7,441 m^2	16	260
			Total	16	260

Note: (1) – According to Town of Caledon By-law 2006-50, Section 5.2.4, where the minimum number of parking, loading or delivery spaces is calculated on the basis of a rate or ratio, the required number of parking, loading or delivery spaces shall be rounded to the next higher whole number.

According to the By-law requirements, a total of 16 loading spaces are required. A total of 260 loading spaces are proposed for the overall development, satisfying the by-law requirements. Furthermore, all proposed loading spaces meet the required delivery space dimensions of at least 14 metres long, 3.5 metres wide, and 3.35 metres in vertical clearance.

A review of the functionality and accessibility of the proposed loading spaces was completed to determine that the proposed loading spaces can be accessed and egressed by the appropriate vehicles. The functionality of the proposed parking spaces was also confirmed. Furthermore, a review of internal roads reveals that Fire and Emergency Service vehicles can safely access the site. The swept path diagrams are provided in **Appendix L**. The review finds that all design vehicles can be accommodated.

9 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a set of strategies which strive towards a more efficient transportation network by influencing travel behaviour. Effective TDM measures can reduce vehicle usage and encourage people to engage in more sustainable methods of travel. There are several opportunities to incorporate TDM measures that support alternative modes of transportation. The recommendations should enhance non-single occupant vehicle trips for existing and future employees of the development. In efforts to reduce single-occupant vehicle (SOV) trips for employees traveling to and tram the subject site.

9.1 PEDESTRIAN-BASED STRATEGIES

Orient building entrances close to the street with direct connections to pedestrian pathways: The proposed pedestrian entrances are oriented facing the future extension of George Bolton Parkway. Walkways and crosswalks will be provided to facilitate a safe and convenient linkage for pedestrians accessing the building.

9.2 TRANSIT-BASED STRATEGIES

Provision of real-time transit schedule screens: Upon full build out of the George Bolton Parkway extension, it is recommended that screens be provided in the employees' lounges and main exits to display real-time data for transit services, including schedules and service alerts.

9.3 TRAVEL AND PARKING MANAGEMENT STRATEGIES

Signed Carpool Spaces: It is recommended that the proposed development include dedicated carpool spaces as a means to reduce SOV usage. These carpool spaces should be clearly signed and located conveniently close to the main entrances to provide a greater incentive for employees carpooling.

Smart Commute Membership: Once tenants are secured, it is recommended that future tenants/owners register with the Smart Commute program. Smart Commute provides the means for businesses to help provide an alternative option for their employees to get to and from work through ride matching. One benefit with Smart Commute is the Emergency Ride Home program that provides carpoolers with a sense of reassurance under urgent circumstances. The Owner could also help tenants in establishing an employer-based carpool program specifically for the employees that would be working on-site.

Communications Strategy: Once tenants are secured, it is recommended that future tenants/owners provide communications and distribute information to employees via information packages or through email regarding the different travel demand management measures and programs that are offered. Information on Smart Commute, Emergency Ride Home, or other incentives can be obtained from the Town or Region and be included as part of this material. The Region and/or Town should also be responsible for making Smart Commute information brochures, pedestrian/cycling maps, transit maps, and other general information available for distribution to the building occupant to help commuters become aware of the various travel alternatives.

10 CONCLUSION

- This Transportation Impact Study has been prepared in support of the Site Plan Approval (SPA) application for Phase 1 of the proposed industrial development located at 12519-12715 Humber Station Road, in the Town of Caledon. The master plan concept includes six (6) industrial buildings. This TIS has been prepared to support Phase 1 of the development which will introduce the first industrial building to the currently vacant site.
- Phase 1 of the development proposal consists of a 143,222 m^2 industrial building. It is understood that warehousing activities are proposed for the building. The proposed development will provide 681 parking spaces, 368 trailer parking spaces, and 260 loading docks at grade.
- As part of the development proposal, a partial extension of George Bolton Parkway from Humber Station Road to the Clarkway Tributary will be constructed. Access to the proposed development will be provided via two (2) full-movement accesses off the future George Bolton Parkway extension.
- Local transit service for the Bolton area is provided by Brampton Transit while inter-regional commuter bus service is operated by GO Transit between Malton and the area of Highway 50 & Columbia Way. Bike lanes are provided on both sides of George Bolton Parkway, east of Coleraine Drive. However, no cycling facilities are available along the remaining study area roadways. The study area also exhibits poor pedestrian connectivity which will be addressed as the Secondary Plan area becomes urbanized through development.
- This assessment considers the 6-year horizon from the existing year 2023. The future background conditions include traffic added to the network from other future developments, corridor growth, and road network improvements.
- The proposed development is anticipated to generate 262 two-way auto vehicle trips during the AM peak hour (202 inbound and 60 outbound) and 278 two-way auto vehicle trips during the PM peak hour (78 inbound and 200 outbound). In addition, 31 two-way truck trips (16 inbound and 15 outbound) are anticipated during the AM peak hour and 46 two-way truck trips (24 inbound and 22 outbound) are anticipated during the PM peak hour.
- The intersection capacity analysis was conducted for the AM and PM peak hours under the existing, future background (2029), and future total (2029). With signal optimizations, the realignment of the Clarkway Drive/Humber Station Road & Mayfield Road intersection, and planned widenings along Mayfield Road, the intersection capacity analysis results indicate that site traffic is expected to have an acceptable impact on the surrounding road network. In addition, the proposed site accesses to the subject site are expected to operate sufficiently under future conditions. Furthermore, signalization is recommended at Humber Station Road & Healey Road by the 2029 horizon to accommodate future traffic growth, a recommendation which is irrespective of site traffic given that the intersection operates poorly under future background conditions.

- The proposed development is required to provide a total of 769 parking spaces under the Town of Caledon Zoning By-law 2006-50 whereas 681 are provided. The proposed site-specific by-law will address this minor 11% deficiency by reducing the parking ratio to accordingly.
- No bicycle parking requirements are provided in Town of Caledon Zoning By-law 2006-50. However, short-term bicycle parking spaces will be provided to encourage biking as a mode of transportation.
- The proposed development is required to provide a total of 16 loading spaces under the Town of Caledon Zoning By-law 2006-50. A total of 260 loading spaces will be provided on-site, satisfying the minimum requirements.
- A set of TDM measures have been recommended to reduce single-occupant vehicle trips and encourage multi-modal travel alternatives. Such measures include but are not limited to smart commute memberships, active transportation connections, and carpooling spaces.

APPENDIX A

MMLOS

Pedestrian Level of Service

Segment	From	To	Side	Sidewalk Width	Blvd Width	AADT per lane	Parking?	Speed	Segment PLOS
Healey Road	Humber Station Road	Coleraine Drive	North	No Sidewalk	0	>3000	No	60	F
			South	No Sidewalk	0	>3000	No	60	F
Humber Station Road	Healey Road	Mayfield Road	East	No Sidewalk	0	>3000	No	80	F
			West	No Sidewalk	0	>3000	No	80	F
Mayfield Road	Humber Station Road	Coleraine Drive	North	No Sidewalk	0	>3000	No	80	F
			South	No Sidewalk	0	>3000	No	80	F

Bicycle Level of Service

Segment	From	To	Side	Type	No. of Lanes	Bike Lane Width	Operating Speed	Centreline?	Segment BLOS
Healey Road	Humber Station Road	Coleraine Drive	North	Mixed	2 travel lanes	-	60	Yes	F
			South	Mixed	2 travel lanes	-	60	Yes	F
Humber Station Road	Healey Road	Mayfield Road	East	Mixed	2 travel lanes	-	80	Yes	F
			West	Mixed	2 travel lanes	-	80	Yes	F
Mayfield Road	Humber Station Road	Coleraine Drive	North	Mixed	2 travel lanes	-	80	Yes	F
			South	Mixed	2 travel lanes	-	80	Yes	F

APPENDIX B

TMCS & STPS

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Count Name: 23347_Humber Station Rd & Mayfield Rd-AM
Site Code: 23347
Start Date: 05/03/2023

Turning Movement Data

Start Time	Humber Station Road Southbound						Mayfield Road Westbound						Humber Station Road Northbound						Mayfield Road Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	5	55	1	0	0	61	1	104	23	0	0	128	41	9	2	0	0	52	4	131	0	0	0	135	376
7:15 AM	0	52	0	0	0	52	0	99	18	0	0	117	25	13	2	0	0	40	4	155	1	0	0	160	369
7:30 AM	1	77	0	0	0	78	1	88	13	0	0	102	21	13	5	0	0	39	10	98	2	0	0	110	329
7:45 AM	2	63	1	0	0	66	2	92	13	0	0	107	25	12	2	0	0	39	10	139	5	0	0	154	366
Hourly Total	8	247	2	0	0	257	4	383	67	0	0	454	112	47	11	0	0	170	28	523	8	0	0	559	1440
8:00 AM	4	51	0	0	0	55	0	75	19	0	0	94	17	16	4	0	0	37	17	140	2	0	0	159	345
8:15 AM	3	77	0	0	0	80	0	82	11	0	0	93	15	11	2	0	0	28	16	129	1	0	0	146	347
8:30 AM	5	53	0	0	0	58	4	71	28	0	0	103	22	17	3	0	0	42	12	110	0	0	0	122	325
8:45 AM	2	27	3	0	0	32	0	77	15	0	0	92	24	7	3	0	0	34	11	128	1	0	0	140	298
Hourly Total	14	208	3	0	0	225	4	305	73	0	0	382	78	51	12	0	0	141	56	507	4	0	0	567	1315
9:00 AM	1	28	0	0	0	29	1	80	5	0	0	86	17	17	7	0	0	41	6	127	2	0	0	135	291
9:15 AM	2	35	1	0	0	38	2	56	6	0	0	64	7	7	1	0	0	15	6	107	5	0	0	118	235
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	25	518	6	0	0	549	11	824	151	0	0	986	214	122	31	0	0	367	96	1264	19	0	0	1379	3281
Approach %	4.6	94.4	1.1	0.0	-	-	1.1	83.6	15.3	0.0	-	-	58.3	33.2	8.4	0.0	-	-	7.0	91.7	1.4	0.0	-	-	-
Total %	0.8	15.8	0.2	0.0	-	16.7	0.3	25.1	4.6	0.0	-	30.1	6.5	3.7	0.9	0.0	-	11.2	2.9	38.5	0.6	0.0	-	42.0	-
Lights	20	515	4	0	-	539	8	606	138	0	-	752	208	117	23	0	-	348	84	1017	18	0	-	1119	2758
% Lights	80.0	99.4	66.7	-	-	98.2	72.7	73.5	91.4	-	-	76.3	97.2	95.9	74.2	-	-	94.8	87.5	80.5	94.7	-	-	81.1	84.1
Buses	2	1	1	0	-	4	1	3	1	0	-	5	0	3	3	0	-	6	0	11	1	0	-	12	27
% Buses	8.0	0.2	16.7	-	-	0.7	9.1	0.4	0.7	-	-	0.5	0.0	2.5	9.7	-	-	1.6	0.0	0.9	5.3	-	-	0.9	0.8
Trucks	3	2	1	0	-	6	2	215	12	0	-	229	6	2	5	0	-	13	12	236	0	0	-	248	496
% Trucks	12.0	0.4	16.7	-	-	1.1	18.2	26.1	7.9	-	-	23.2	2.8	1.6	16.1	-	-	3.5	12.5	18.7	0.0	-	-	18.0	15.1
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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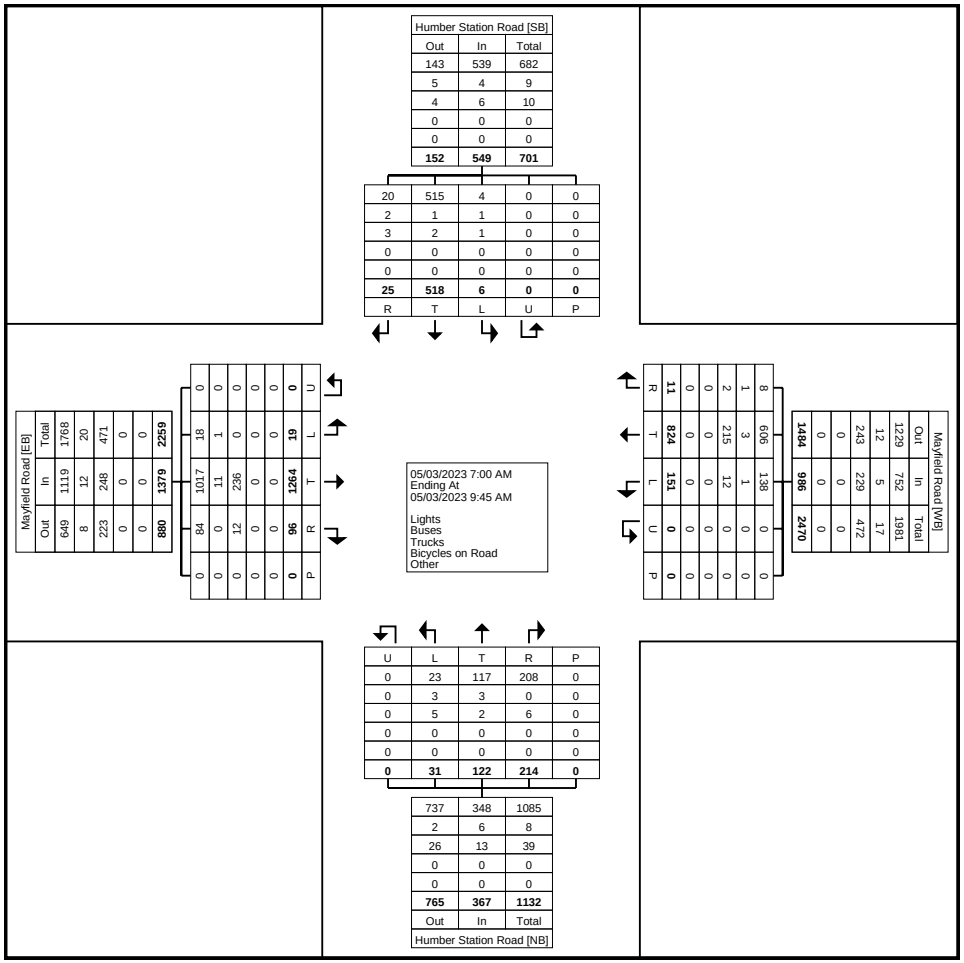
Count Name: 23347_Humber Station Rd & Mayfield Rd-AM
Site Code: 23347
Start Date: 05/03/2023
Page No: 2



Turning Movement Data Plot

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 23347_Humber Station Rd & Mayfield Rd-AM
Site Code: 23347
Start Date: 05/03/2023

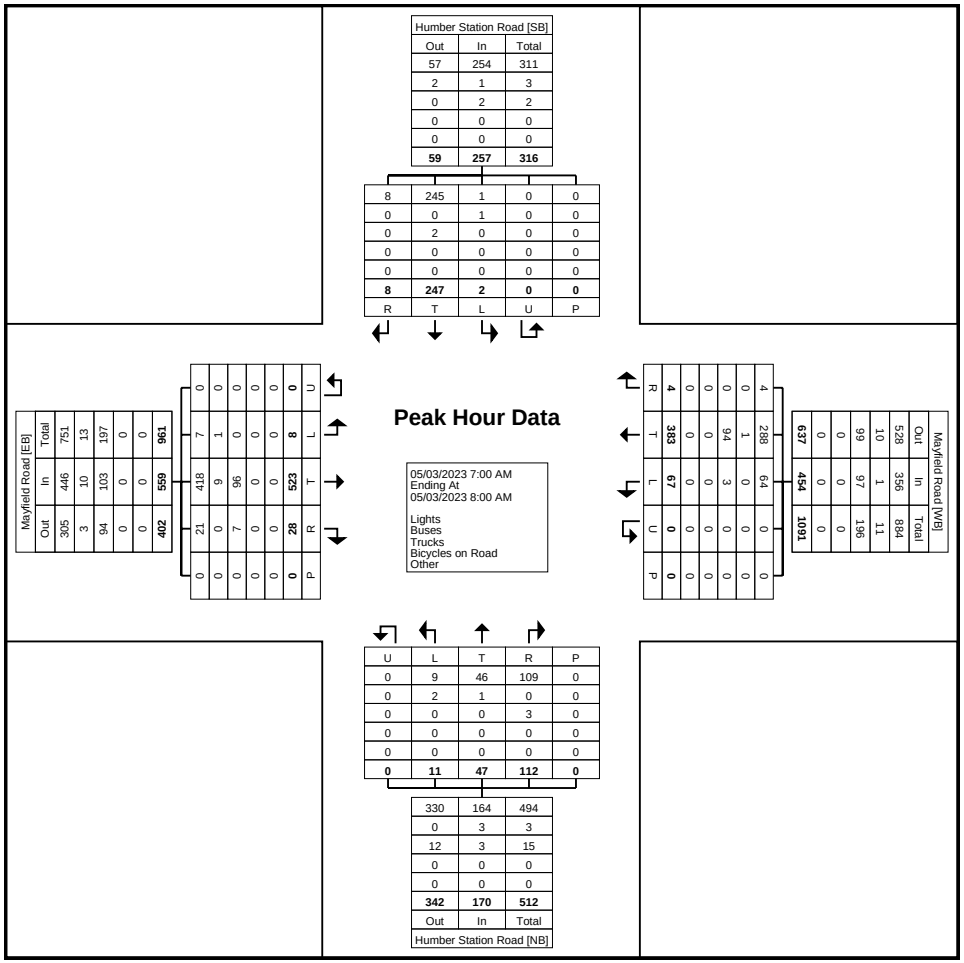
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Humber Station Road Southbound						Mayfield Road Westbound						Humber Station Road Northbound						Mayfield Road Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	5	55	1	0	0	61	1	104	23	0	0	128	41	9	2	0	0	52	4	131	0	0	0	135	376
7:15 AM	0	52	0	0	0	52	0	99	18	0	0	117	25	13	2	0	0	40	4	155	1	0	0	160	369
7:30 AM	1	77	0	0	0	78	1	88	13	0	0	102	21	13	5	0	0	39	10	98	2	0	0	110	329
7:45 AM	2	63	1	0	0	66	2	92	13	0	0	107	25	12	2	0	0	39	10	139	5	0	0	154	366
Total	8	247	2	0	0	257	4	383	67	0	0	454	112	47	11	0	0	170	28	523	8	0	0	559	1440
Approach %	3.1	96.1	0.8	0.0	-	-	0.9	84.4	14.8	0.0	-	-	65.9	27.6	6.5	0.0	-	-	5.0	93.6	1.4	0.0	-	-	-
Total %	0.6	17.2	0.1	0.0	-	17.8	0.3	26.6	4.7	0.0	-	31.5	7.8	3.3	0.8	0.0	-	11.8	1.9	36.3	0.6	0.0	-	38.8	-
PHF	0.400	0.802	0.500	0.000	-	0.824	0.500	0.921	0.728	0.000	-	0.887	0.683	0.904	0.550	0.000	-	0.817	0.700	0.844	0.400	0.000	-	0.873	0.957
Lights	8	245	1	0	-	254	4	288	64	0	-	356	109	46	9	0	-	164	21	418	7	0	-	446	1220
% Lights	100.0	99.2	50.0	-	-	98.8	100.0	75.2	95.5	-	-	78.4	97.3	97.9	81.8	-	-	96.5	75.0	79.9	87.5	-	-	79.8	84.7
Buses	0	0	1	0	-	1	0	1	0	0	-	1	0	1	2	0	-	3	0	9	1	0	-	10	15
% Buses	0.0	0.0	50.0	-	-	0.4	0.0	0.3	0.0	-	-	0.2	0.0	2.1	18.2	-	-	1.8	0.0	1.7	12.5	-	-	1.8	1.0
Trucks	0	2	0	0	-	2	0	94	3	0	-	97	3	0	0	0	-	3	7	96	0	0	-	103	205
% Trucks	0.0	0.8	0.0	-	-	0.8	0.0	24.5	4.5	-	-	21.4	2.7	0.0	0.0	-	-	1.8	25.0	18.4	0.0	-	-	18.4	14.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 23347_Humber Station Rd & Mayfield Rd-AM
Site Code: 23347
Start Date: 05/03/2023



Turning Movement Peak Hour Data Plot (7:00 AM)

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 23347_Humber Station Rd & Mayfield Rd-PM
Site Code: 23347
Start Date: 05/03/2023

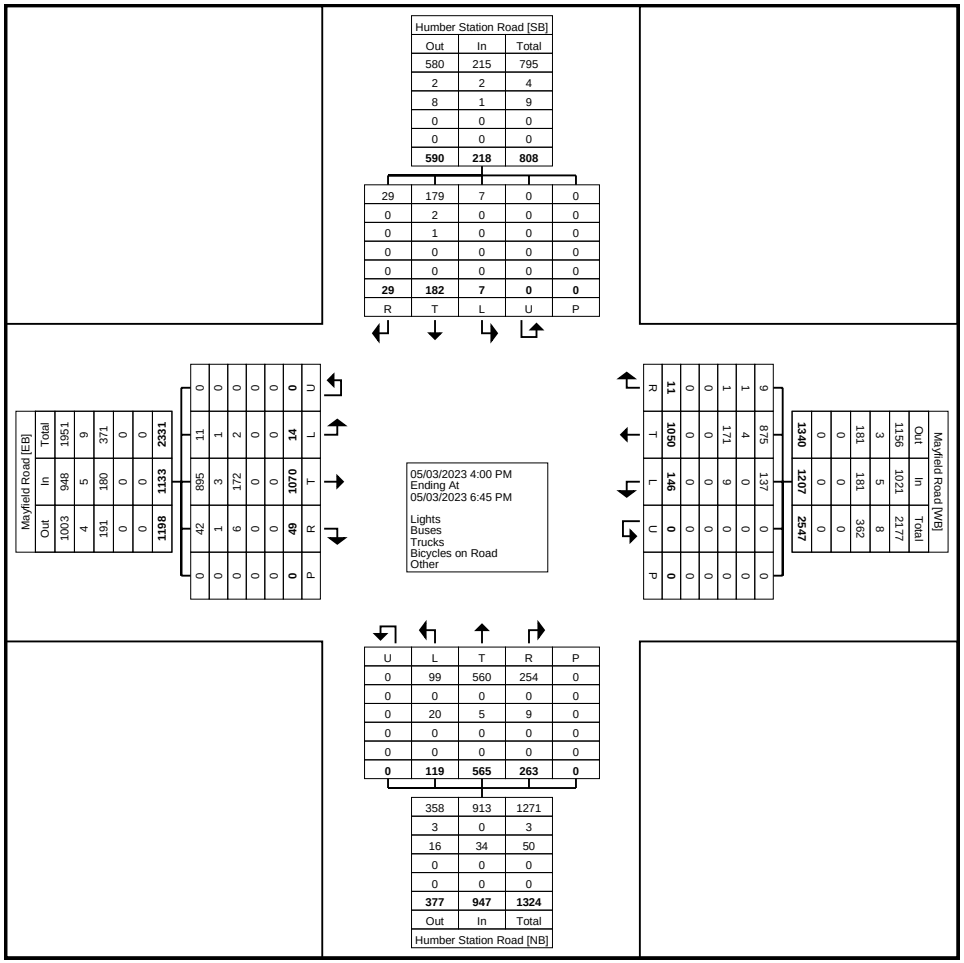
Turning Movement Data

Start Time	Humber Station Road Southbound						Mayfield Road Westbound						Humber Station Road Northbound						Mayfield Road Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:00 PM	4	26	0	0	0	30	1	112	8	0	0	121	30	60	10	0	0	100	3	87	1	0	0	91	342
4:15 PM	2	26	2	0	0	30	1	122	11	0	0	134	20	50	7	0	0	77	7	99	0	0	0	106	347
4:30 PM	2	20	1	0	0	23	0	72	16	0	0	88	20	58	8	0	0	86	7	108	0	0	0	115	312
4:45 PM	2	12	1	0	0	15	0	93	20	0	0	113	24	63	16	0	0	103	6	112	0	0	0	118	349
Hourly Total	10	84	4	0	0	98	2	399	55	0	0	456	94	231	41	0	0	366	23	406	1	0	0	430	1350
5:00 PM	1	15	0	0	0	16	0	79	17	0	0	96	34	73	13	0	0	120	6	110	1	0	0	117	349
5:15 PM	5	18	0	0	0	23	0	115	19	0	0	134	31	48	15	0	0	94	4	108	2	0	0	114	365
5:30 PM	4	18	0	0	0	22	3	108	6	0	0	117	25	69	22	0	0	116	5	99	1	0	0	105	360
5:45 PM	2	11	0	0	0	13	1	127	10	0	0	138	19	55	9	0	0	83	4	131	6	0	0	141	375
Hourly Total	12	62	0	0	0	74	4	429	52	0	0	485	109	245	59	0	0	413	19	448	10	0	0	477	1449
6:00 PM	2	16	1	0	0	19	2	94	17	0	0	113	29	61	10	0	0	100	3	108	2	0	0	113	345
6:15 PM	5	20	2	0	0	27	3	128	22	0	0	153	31	28	9	0	0	68	4	108	1	0	0	113	361
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	29	182	7	0	0	218	11	1050	146	0	0	1207	263	565	119	0	0	947	49	1070	14	0	0	1133	3505
Approach %	13.3	83.5	3.2	0.0	-	-	0.9	87.0	12.1	0.0	-	-	27.8	59.7	12.6	0.0	-	-	4.3	94.4	1.2	0.0	-	-	-
Total %	0.8	5.2	0.2	0.0	-	6.2	0.3	30.0	4.2	0.0	-	34.4	7.5	16.1	3.4	0.0	-	27.0	1.4	30.5	0.4	0.0	-	32.3	-
Lights	29	179	7	0	-	215	9	875	137	0	-	1021	254	560	99	0	-	913	42	895	11	0	-	948	3097
% Lights	100.0	98.4	100.0	-	-	98.6	81.8	83.3	93.8	-	-	84.6	96.6	99.1	83.2	-	-	96.4	85.7	83.6	78.6	-	-	83.7	88.4
Buses	0	2	0	0	-	2	1	4	0	0	-	5	0	0	0	0	-	0	1	3	1	0	-	5	12
% Buses	0.0	1.1	0.0	-	-	0.9	9.1	0.4	0.0	-	-	0.4	0.0	0.0	0.0	-	-	0.0	2.0	0.3	7.1	-	-	0.4	0.3
Trucks	0	1	0	0	-	1	1	171	9	0	-	181	9	5	20	0	-	34	6	172	2	0	-	180	396
% Trucks	0.0	0.5	0.0	-	-	0.5	9.1	16.3	6.2	-	-	15.0	3.4	0.9	16.8	-	-	3.6	12.2	16.1	14.3	-	-	15.9	11.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 23347_Humber Station Rd & Mayfield Rd-PM
Site Code: 23347
Start Date: 05/03/2023



Turning Movement Data Plot

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 23347_Humber Station Rd & Mayfield Rd-PM
Site Code: 23347
Start Date: 05/03/2023

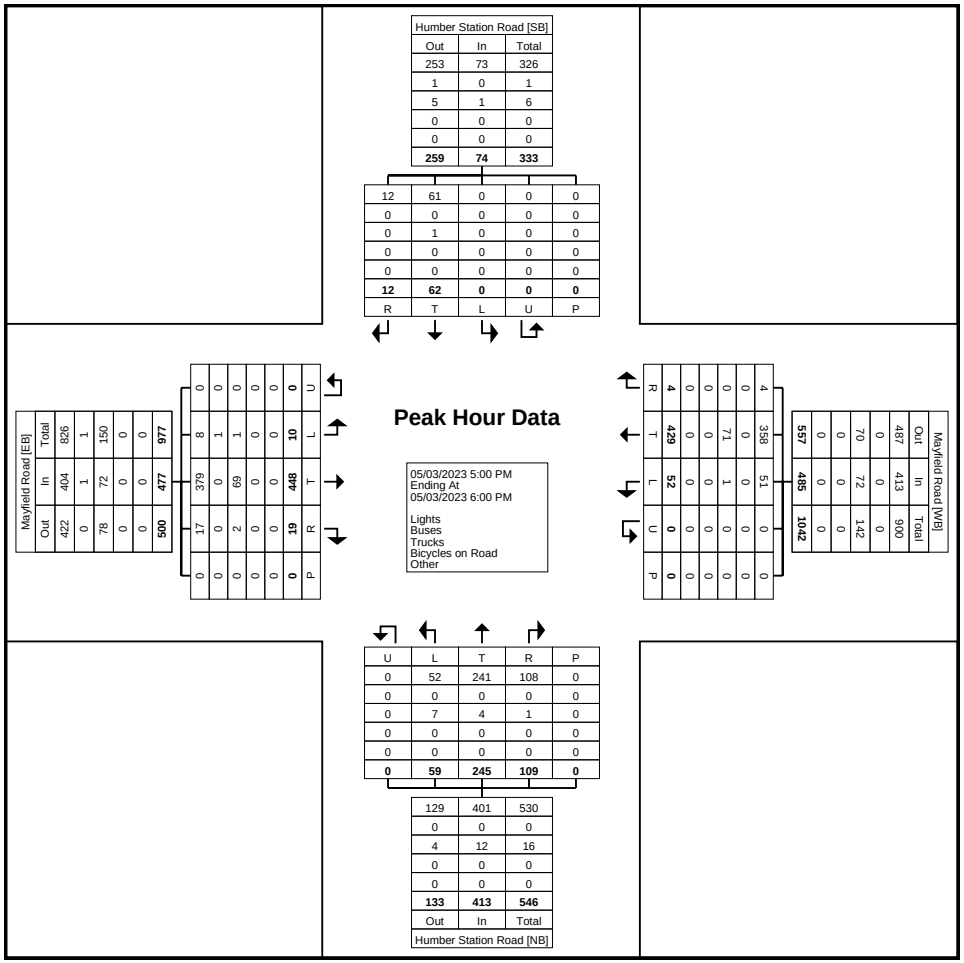
Turning Movement Peak Hour Data (5:00 PM)

Start Time	Humber Station Road Southbound						Mayfield Road Westbound						Humber Station Road Northbound						Mayfield Road Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
5:00 PM	1	15	0	0	0	16	0	79	17	0	0	96	34	73	13	0	0	120	6	110	1	0	0	117	349
5:15 PM	5	18	0	0	0	23	0	115	19	0	0	134	31	48	15	0	0	94	4	108	2	0	0	114	365
5:30 PM	4	18	0	0	0	22	3	108	6	0	0	117	25	69	22	0	0	116	5	99	1	0	0	105	360
5:45 PM	2	11	0	0	0	13	1	127	10	0	0	138	19	55	9	0	0	83	4	131	6	0	0	141	375
Total	12	62	0	0	0	74	4	429	52	0	0	485	109	245	59	0	0	413	19	448	10	0	0	477	1449
Approach %	16.2	83.8	0.0	0.0	-	-	0.8	88.5	10.7	0.0	-	-	26.4	59.3	14.3	0.0	-	-	4.0	93.9	2.1	0.0	-	-	-
Total %	0.8	4.3	0.0	0.0	-	5.1	0.3	29.6	3.6	0.0	-	33.5	7.5	16.9	4.1	0.0	-	28.5	1.3	30.9	0.7	0.0	-	32.9	-
PHF	0.600	0.861	0.000	0.000	-	0.804	0.333	0.844	0.684	0.000	-	0.879	0.801	0.839	0.670	0.000	-	0.860	0.792	0.855	0.417	0.000	-	0.846	0.966
Lights	12	61	0	0	-	73	4	358	51	0	-	413	108	241	52	0	-	401	17	379	8	0	-	404	1291
% Lights	100.0	98.4	-	-	-	98.6	100.0	83.4	98.1	-	-	85.2	99.1	98.4	88.1	-	-	97.1	89.5	84.6	80.0	-	-	84.7	89.1
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1
% Buses	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	10.0	-	-	0.2	0.1
Trucks	0	1	0	0	-	1	0	71	1	0	-	72	1	4	7	0	-	12	2	69	1	0	-	72	157
% Trucks	0.0	1.6	-	-	-	1.4	0.0	16.6	1.9	-	-	14.8	0.9	1.6	11.9	-	-	2.9	10.5	15.4	10.0	-	-	15.1	10.8
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 23347_Humber Station Rd & Mayfield Rd-PM
Site Code: 23347
Start Date: 05/03/2023



Turning Movement Peak Hour Data Plot (5:00 PM)

LEA Consulting Ltd.

625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Project No.: 23347
Intersection: Humber Station Rd & Healey
Weather: Rain
Surveyor(s): ID

File Name : Humber Station Rd & Healey Rd - AM
Site Code : 00023347
Start Date : 2023-05-03
Page No : 1

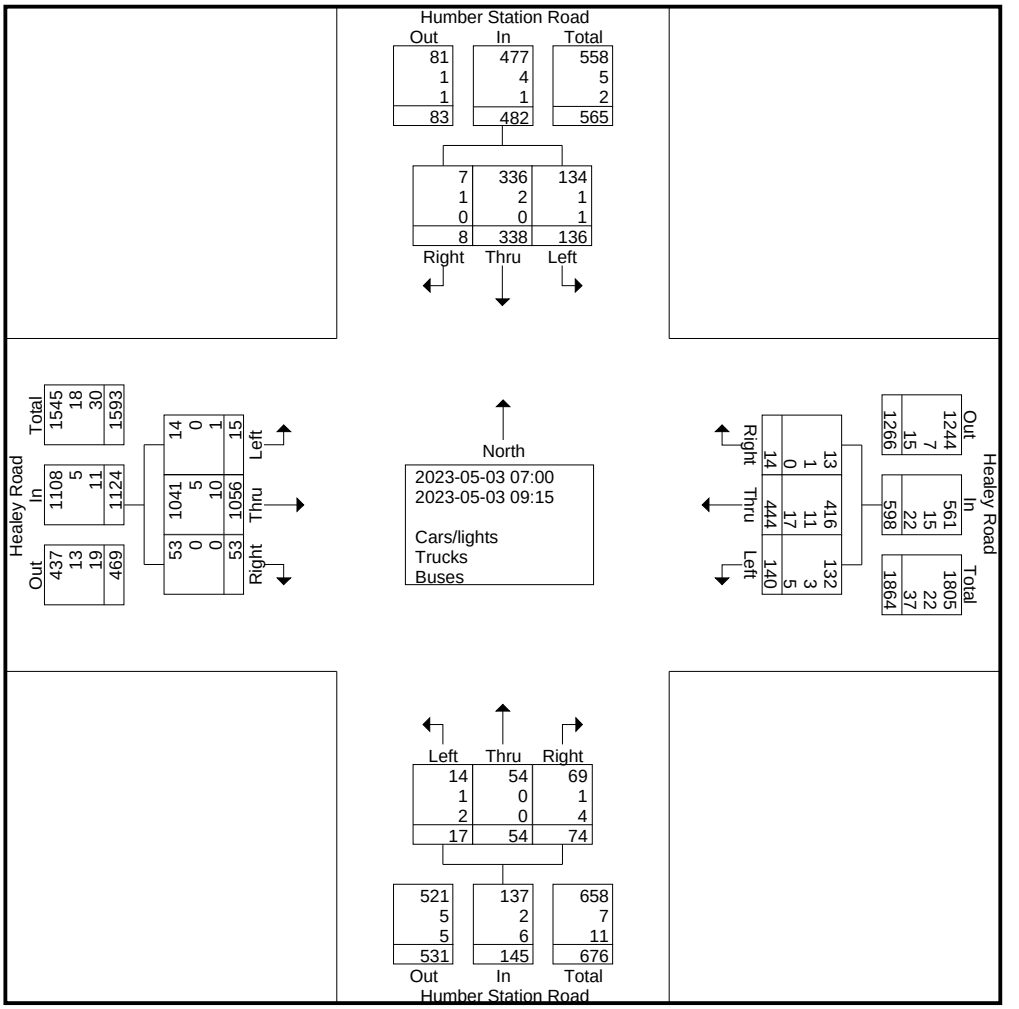
Groups Printed- Cars/lights - Trucks - Buses

	Humber Station Road Southbound					Healey Road Westbound					Humber Station Road Northbound					Healey Road Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00	15	34	0	[0]	49	23	46	0	[0]	69	0	3	4	[0]	7	2	131	2	[0]	135	0	260	260
07:15	21	46	2	[0]	69	18	60	0	[0]	78	2	7	8	[0]	17	1	129	3	[0]	133	0	297	297
07:30	15	43	1	[0]	59	21	60	2	[0]	83	2	2	10	[0]	14	0	117	10	[0]	127	0	283	283
07:45	21	39	1	[0]	61	11	44	2	[0]	57	2	4	9	[0]	15	1	122	4	[0]	127	0	260	260
Total	72	162	4	[0]	238	73	210	4	[0]	287	6	16	31	[0]	53	4	499	19	[0]	522	0	1100	1100
08:00	6	33	0	[0]	39	17	45	1	[0]	63	1	10	10	[0]	21	1	99	3	[0]	103	0	226	226
08:15	15	54	0	[0]	69	16	35	2	[0]	53	1	5	5	[0]	11	1	103	13	[0]	117	0	250	250
08:30	9	26	2	[0]	37	16	42	4	[0]	62	1	4	7	[0]	12	3	96	5	[0]	104	0	215	215
08:45	14	17	1	[0]	32	7	41	0	[0]	48	4	3	8	[0]	15	1	109	6	[0]	116	0	211	211
Total	44	130	3	[0]	177	56	163	7	[0]	226	7	22	30	[0]	59	6	407	27	[0]	440	0	902	902
09:00	10	22	0	[0]	32	3	31	2	[0]	36	0	9	8	[0]	17	4	79	2	[0]	85	0	170	170
09:15	10	24	1	[0]	35	8	40	1	[0]	49	4	7	5	[0]	16	1	71	5	[0]	77	0	177	177
Grand Total	136	338	8	[0]	482	140	444	14	[0]	598	17	54	74	[0]	145	15	1056	53	[0]	1124	0	2349	2349
Apprch %	28.2	70.1	1.7			23.4	74.2	2.3			11.7	37.2	51			1.3	94	4.7					
Total %	5.8	14.4	0.3		20.5	6	18.9	0.6		25.5	0.7	2.3	3.2		6.2	0.6	45	2.3		47.9	0	100	
Cars/lights	134	336	7		477	132	416	13		561	14	54	69		137	14	1041	53		1108	0	0	2283
% Cars/lights	98.5	99.4	87.5	0	99	94.3	93.7	92.9	0	93.8	82.4	100	93.2	0	94.5	93.3	98.6	100	0	98.6	0	0	97.2
Trucks	1	2	1		4	3	11	1		15	1	0	1		2	0	5	0		5	0	0	26
% Trucks	0.7	0.6	12.5	0	0.8	2.1	2.5	7.1	0	2.5	5.9	0	1.4	0	1.4	0	0.5	0	0	0.4	0	0	1.1
Buses	1	0	0		1	5	17	0		22	2	0	4		6	1	10	0		11	0	0	40
% Buses	0.7	0	0	0	0.2	3.6	3.8	0	0	3.7	11.8	0	5.4	0	4.1	6.7	0.9	0	0	1	0	0	1.7

LEA Consulting Ltd.

625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

File Name : Humber Station Rd & Healey Rd - AM
Site Code : 00023347
Start Date : 2023-05-03
Page No : 2

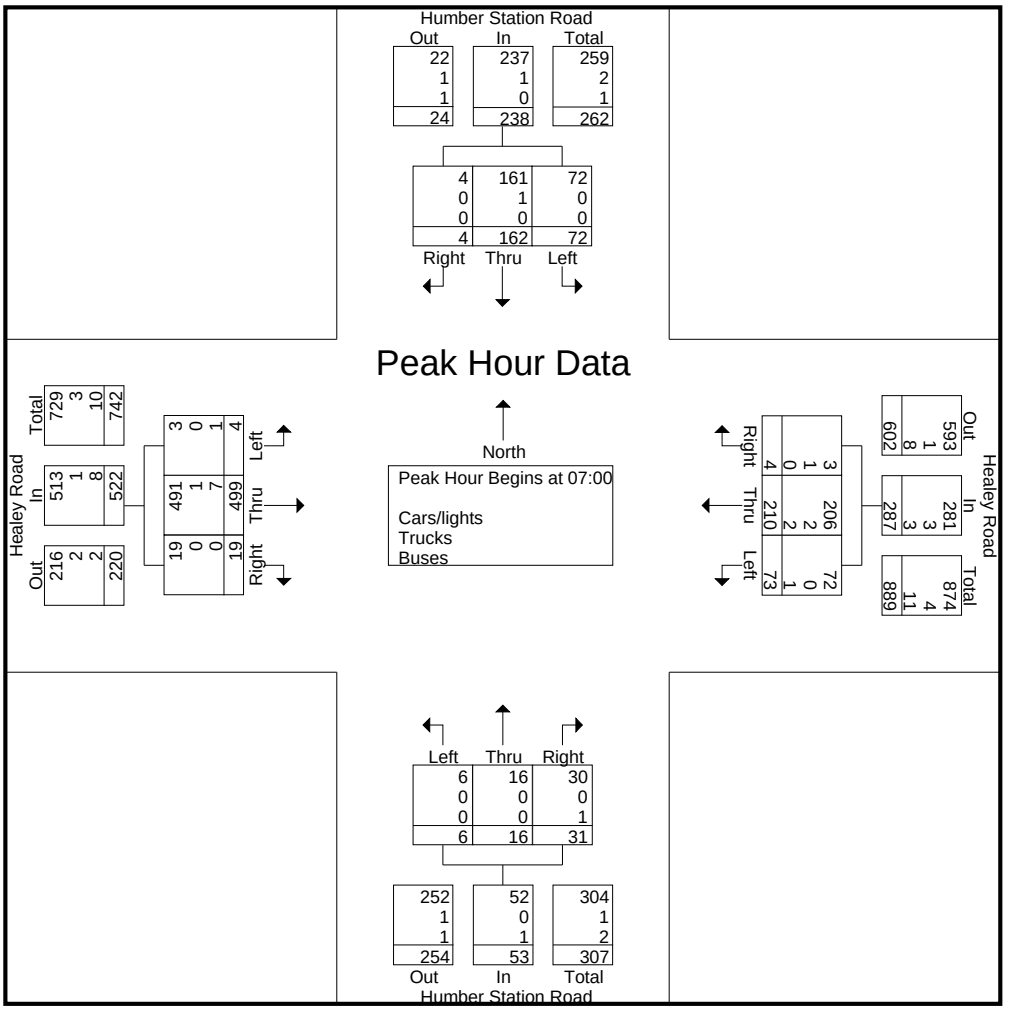


LEA Consulting Ltd.

625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

File Name : Humber Station Rd & Healey Rd - AM
Site Code : 00023347
Start Date : 2023-05-03
Page No : 3

	Humber Station Road Southbound				Healey Road Westbound				Humber Station Road Northbound				Healey Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	15	34	0	49	**23**	46	0	69	0	3	4	7	**2**	**131**	2	**135**	260
07:15	**21**	**46**	**2**	**69**	18	**60**	0	78	**2**	**7**	8	**17**	1	129	3	133	**297**
07:30	15	43	1	59	21	60	**2**	**83**	2	2	**10**	14	0	117	**10**	127	283
07:45	21	39	1	61	11	44	2	57	2	4	9	15	1	122	4	127	260
Total Volume	72	162	4	238	73	210	4	287	6	16	31	53	4	499	19	522	1100
% App. Total	30.3	68.1	1.7		25.4	73.2	1.4		11.3	30.2	58.5		0.8	95.6	3.6		
PHF	.857	.880	.500	.862	.793	.875	.500	.864	.750	.571	.775	.779	.500	.952	.475	.967	.926
Cars/lights	72	161	4	237	72	206	3	281	6	16	30	52	3	491	19	513	1083
% Cars/lights	100	99.4	100	99.6	98.6	98.1	75.0	97.9	100	100	96.8	98.1	75.0	98.4	100	98.3	98.5
Trucks	0	1	0	1	0	2	1	3	0	0	0	0	0	1	0	1	5
% Trucks	0	0.6	0	0.4	0	1.0	25.0	1.0	0	0	0	0	0	0.2	0	0.2	0.5
Buses	0	0	0	0	1	2	0	3	0	0	1	1	1	7	0	8	12
% Buses	0	0	0	0	1.4	1.0	0	1.0	0	0	3.2	1.9	25.0	1.4	0	1.5	1.1



LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

LEA Consulting Ltd.

625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Project No.: 23347
Intersection: Humber Station Rd & Healey
Weather: Rain
Surveyor(s): ID

File Name : Humber Station Rd & Healey Rd - PM
Site Code : 00023347
Start Date : 2023-05-03
Page No : 1

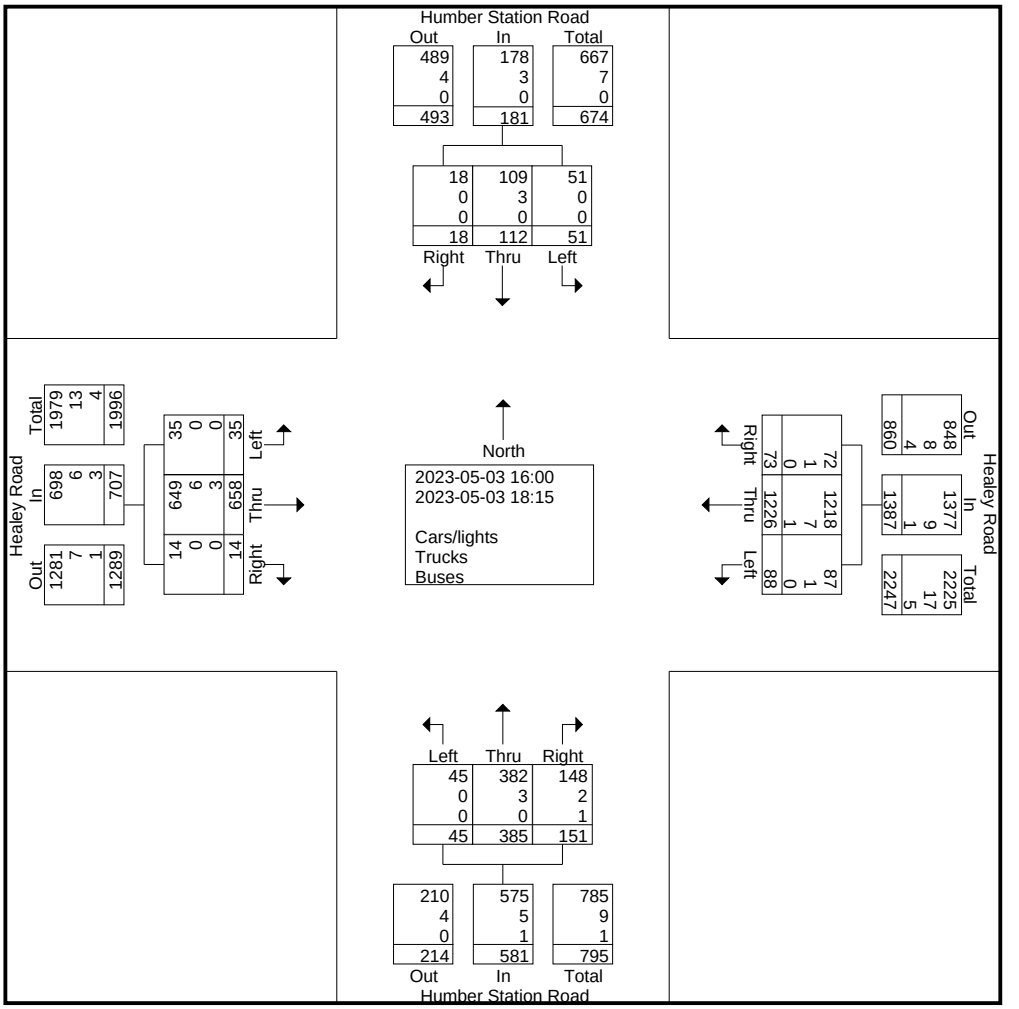
Groups Printed- Cars/lights - Trucks - Buses

	Humber Station Road Southbound					Healey Road Westbound					Humber Station Road Northbound					Healey Road Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
16:00	5	14	5	[0]	24	9	109	11	[0]	129	11	37	11	[0]	59	1	69	2	[0]	72	0	284	284
16:15	3	16	0	[0]	19	12	121	7	[0]	140	7	34	16	[0]	57	6	64	3	[0]	73	0	289	289
16:30	5	11	2	[0]	18	9	129	8	[0]	146	4	38	14	[0]	56	0	60	2	[0]	62	0	282	282
16:45	6	6	1	[0]	13	7	123	14	[0]	144	4	35	18	[0]	57	2	73	0	[0]	75	0	289	289
Total	19	47	8	[0]	74	37	482	40	[0]	559	26	144	59	[0]	229	9	266	7	[0]	282	0	1144	1144
17:00	4	14	3	[0]	21	10	124	6	[0]	140	5	53	20	[0]	78	9	51	1	[0]	61	0	300	300
17:15	6	13	3	[0]	22	5	132	6	[0]	143	1	44	15	[0]	60	1	64	1	[0]	66	0	291	291
17:30	8	7	0	[0]	15	10	123	5	[0]	138	6	35	13	[0]	54	4	62	2	[0]	68	0	275	275
17:45	4	8	0	[0]	12	9	117	5	[0]	131	4	55	17	[0]	76	7	70	2	[0]	79	0	298	298
Total	22	42	6	[0]	70	34	496	22	[0]	552	16	187	65	[0]	268	21	247	6	[0]	274	0	1164	1164
18:00	2	9	1	[0]	12	10	135	7	[0]	152	2	34	18	[0]	54	1	63	0	[0]	64	0	282	282
18:15	8	14	3	[0]	25	7	113	4	[0]	124	1	20	9	[0]	30	4	82	1	[0]	87	0	266	266
Grand Total	51	112	18	[0]	181	88	1226	73	[0]	1387	45	385	151	[0]	581	35	658	14	[0]	707	0	2856	2856
Apprch %	28.2	61.9	9.9			6.3	88.4	5.3			7.7	66.3	26			5	93.1	2					
Total %	1.8	3.9	0.6		6.3	3.1	42.9	2.6		48.6	1.6	13.5	5.3		20.3	1.2	23	0.5		24.8	0	100	
Cars/lights	51	109	18		178	87	1218	72		1377	45	382	148		575	35	649	14		698	0	0	2828
% Cars/lights	100	97.3	100	0	98.3	98.9	99.3	98.6	0	99.3	100	99.2	98	0	99	100	98.6	100	0	98.7	0	0	99
Trucks	0	3	0		3	1	7	1		9	0	3	2		5	0	6	0		6	0	0	23
% Trucks	0	2.7	0	0	1.7	1.1	0.6	1.4	0	0.6	0	0.8	1.3	0	0.9	0	0.9	0	0	0.8	0	0	0.8
Buses	0	0	0		0	0	1	0		1	0	0	1		1	0	3	0		3	0	0	5
% Buses	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0.7	0	0.2	0	0.5	0	0	0.4	0	0	0.2

LEA Consulting Ltd.

625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

File Name : Humber Station Rd & Healey Rd - PM
Site Code : 00023347
Start Date : 2023-05-03
Page No : 2

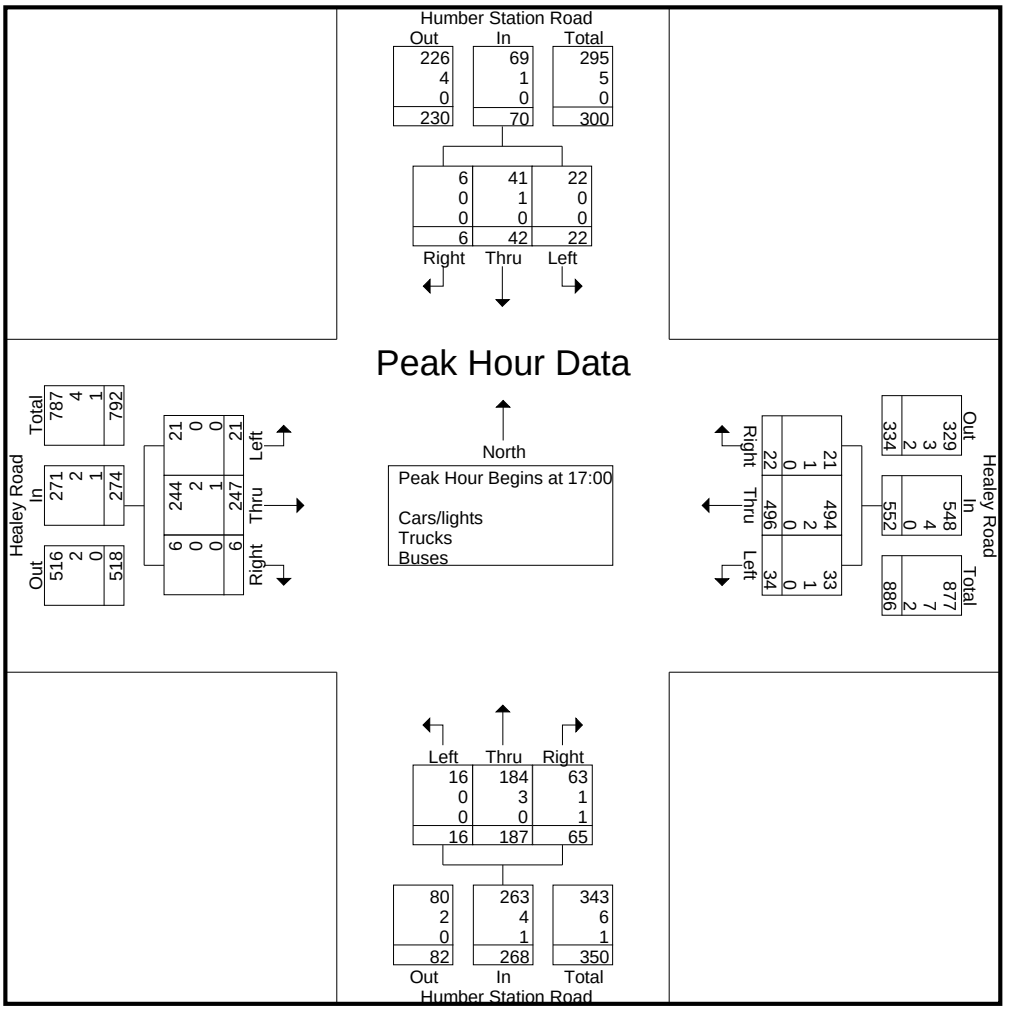


LEA Consulting Ltd.

625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

File Name : Humber Station Rd & Healey Rd - PM
Site Code : 00023347
Start Date : 2023-05-03
Page No : 3

	Humber Station Road Southbound				Healey Road Westbound				Humber Station Road Northbound				Healey Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	4	**14**	**3**	21	**10**	124	**6**	140	5	53	**20**	**78**	**9**	51	1	61	**300**
17:15	6	13	3	**22**	5	**132**	6	**143**	1	44	15	60	1	64	1	66	291
17:30	**8**	7	0	15	10	123	5	138	**6**	35	13	54	4	62	**2**	68	275
17:45	4	8	0	12	9	117	5	131	4	**55**	17	76	7	**70**	2	**79**	298
Total Volume	22	42	6	70	34	496	22	552	16	187	65	268	21	247	6	274	1164
% App. Total	31.4	60	8.6		6.2	89.9	4		6	69.8	24.3		7.7	90.1	2.2		
PHF	.688	.750	.500	.795	.850	.939	.917	.965	.667	.850	.813	.859	.583	.882	.750	.867	.970
Cars/lights	22	41	6	69	33	494	21	548	16	184	63	263	21	244	6	271	1151
% Cars/lights	100	97.6	100	98.6	97.1	99.6	95.5	99.3	100	98.4	96.9	98.1	100	98.8	100	98.9	98.9
Trucks	0	1	0	1	1	2	1	4	0	3	1	4	0	2	0	2	11
% Trucks	0	2.4	0	1.4	2.9	0.4	4.5	0.7	0	1.6	1.5	1.5	0	0.8	0	0.7	0.9
Buses	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
% Buses	0	0	0	0	0	0	0	0	0	0	1.5	0.4	0	0.4	0	0.4	0.2



LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**June 27, 2023**		**Prepared Date**	**June 30, 2023**
Database Rev	**Maxview**		**Completed By**	**TF**
Timing Card / Field rev	**-**		**Checked By**	**MH**

Location — **Mayfield Road at Clarkway Drive / Humber Station Road**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Not In Use	-	-	-	-	-	-	-	-
2	Mayfield Road - EB	12.0	12.0	8.0	4.6	2.7	70.0	50.0	55.0
3	Humber Station Road - SB	8.0	12.0	7.0	4.2	2.8	30.0	20.0	20.0
4	Clarkway Drive - NB	8.0	12.0	7.0	4.2	2.8	20.0	30.0	45.0
5	Not In Use	-	-	-	-	-	-	-	-
6	Mayfield Road - WB	12.0	12.0	8.0	4.6	2.7	70.0	50.0	55.0
7	Not In Use	-	-	-	-	-	-	-	-
8	Computer Phase	8.0	12.0	7.0	4.2	2.8	50.0	50.0	65.0

System Control
Yes

Semi-Actuated Mode
No

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
06:30 - 09:00	AM	120	31
09:00 - 15:00	OFF	100	45
15:00 - 19:30	PM	120	43

APPENDIX C

Background Developments

Triangle Lands Vehicle and Truck Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Triangle Lands (Vehicle)							
ITE LUC 140 – Manufacturing 1066 Employees	Auto Trip Rate (/employee)	0.23	0.09	0.32	0.11	0.20	0.31
	Total ITE Auto Trips	249	92	341	122	208	330
	External Auto Trips (100%)	**249**	**92**	**341**	**122**	**208**	**330**
Triangle Lands (Truck)							
ITE LUC 140 – Manufacturing 1066 Employees	Truck Trip Rate (/employee)	0.02	0.01	0.03	0.02	0.03	0.05
	Total ITE Auto Trips	19	13	32	20	34	54
	External Truck Trips (100%)	**19**	**13**	**32**	**20**	**34**	**54**

Coleraine Drive & Mayfield Road Block Plan Vehicle and Truck Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Coleraine Drive and Mayfield Road Block Plan (Vehicle)							
ITE LUC 140 – Manufacturing 598 Employees	Auto Trip Rate (/employee)	0.23	0.09	0.32	0.11	0.20	0.31
	Total ITE Auto Trips	140	52	192	69	117	186
	External Auto Trips (100%)	**140**	**52**	**192**	**69**	**117**	**186**
Coleraine Drive and Mayfield Road Block Plan (Truck)							
ITE LUC 140 – Manufacturing 598 Employees	Truck Trip Rate (/employee)	0.02	0.01	0.03	0.02	0.03	0.05
	Total ITE Auto Trips	11	7	18	11	19	30
	External Truck Trips (100%)	**11**	**7**	**18**	**11**	**19**	**30**

APPENDIX D

Corridor Growth Calculations

Intersection A

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB	30	30	101	101
	3					
1	4					
Humber Station Rd (Screenline by Mayfield Rd)	5	SB	542	542	730	730
	6					
	7					
	8	EB		0		
	9					
	10					
	11	WB		0		
	12					

AM

Year	Street Name NB	SB	EB	WB	Overall
2021	30	542	0	0	572
2041	101	730	0	0	831

Calculated Growth Rates:	3.51%	1.29%	#DIV/0!	#DIV/0!	1.56%
Applied Growth Rates:	3.5%	0.0%	0.0%	0.0%	1.0%

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB	30	30	35	35
	3					
1	4					
Humber Station Rd (Screenline North of Healey Rd)	5	SB	659	659	585	585
	6					
	7					
	8	EB		0		0
	9					
	10					
	11	WB		0		0
	12					

AM

Year	Street Name NB	SB	EB	WB	Overall
2021	30	659	0	0	689
2041	35	585	0	0	620

Calculated Growth Rates:	0.71%	-0.63%	#DIV/0!	#DIV/0!	-0.56%
Applied Growth Rates:	1.0%	0.0%	0.0%	0.0%	1.0%

Growth

NB	SB
2.11%	1%
2.0%	1.0%

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB		0		0
	3					
1	4					
Healey Rd (Screenline west of Humber Station Rd)	5	SB		0		0
	6					
	7					
	8	EB	193	193	616	616
	9					
	10					
	11	WB	4	4	21	21
	12					

AM

Year	Street Name NB	SB	Street Name EB	WB	Overall
2021	0	0	193	4	197
2041	0	0	616	21	637

Calculated Growth Rates:	#DIV/0!	#DIV/0!	3.43%	4.05%	3.45%
Applied Growth Rates:	0.0%	0.0%	0.0%	0.0%	0.0%

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB		0		0
	3					
1	4					
Healey Rd (Screenline East of Humber Station Rd)	5	SB		0		0
	6					
	7					
	8	EB	310	310	650	650
	9					
	10					
	11	WB	5	5	21	21
	12					

AM

Year	Street Name NB	SB	Street Name EB	WB	Overall
2021	0	0	310	5	315
2041	0	0	650	21	671

Calculated Growth Rates:	#DIV/0!	#DIV/0!	2.62%	3.81%	2.65%
Applied Growth Rates:	0.0%	0.0%	0.0%	0.0%	0.0%

Growth

EB	WB
3.02%	3.93%
3%	4%

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB		0		0
	3					
1	4					
George Bolton Pkwy (Screenline by Coleraine Dr)	5	SB		0		0
	6					
	7					
	8	EB	797	797	0	0
	9					
	10					
	11	WB	12	12	7	7
	12					

AM

Year	Street Name NB	SB	Street Name EB	WB	Overall
2021	0	0	797	12	809
2041	0	0	0	7	7

Calculated Growth Rates:	#DIV/0!	#DIV/0!	#DIV/0!	-3.57%	-572.86%
Applied Growth Rates:	0.0%	0.0%	0.0%	0.0%	0.0%

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB		0		0
	3					
1	4					
George Bolton Pkwy (Screenline by hwy 50)	5	SB		0		0
	6					
	7					
	8	EB	2	2	0	0
	9					
	10					
	11	WB	12	12	0	0
	12					

AM

Year	Street Name NB	SB	Street Name EB	WB	Overall
2021	0	0	2	12	14
2041	0	0	0	0	0

Calculated Growth Rates:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Applied Growth Rates:	0.0%	0.0%	0.0%	0.0%	0.0%

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB		0		0
	3					
1	4					
George Bolton Pkwy (Screenline at internal node)	5	SB		0		0
	6					
	7					
	8	EB	0	0	34	34
	9					
	10					
	11	WB	0	0	53	53
	12					

AM

Year	Street Name NB	SB	Street Name EB	WB	Overall
2021	0	0	0	0	0
2041	0	0	34	53	87

Calculated Growth Rates:	#DIV/0!	#DIV/0!	5.00%	5.00%	5.00%
Applied Growth Rates:	0.0%	0.0%	0.0%	0.0%	0.0%

*Assuming no growth along George Bolton Pkwy

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB	1089	1089	1452	1452
	3					
1	4					
Hwy 50 (Screenline South of George Bolton Pkwy)	5	SB	1126	1126	1164	1164
	6					
	7					
	8	EB		0		0
	9					
	10					
	11	WB		0		0
	12					

AM

Year	Street Name NB	SB	EB	WB	Overall
2021	1089	1126	0	0	2215
2041	1452	1164	0	0	2616

Calculated Growth Rates:	1.25%	0.16%	#DIV/0!	#DIV/0!	0.77%
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB	1087	1087	1486	1486
	3					
1	4					
Hwy 50 (Screenline North of George Bolton Pkwy)	5	SB	1135	1135	1217	1217
	6					
	7					
	8	EB		0		0
	9					
	10					
	11	WB		0		0
	12					

AM

Year	Street Name NB	SB	EB	WB	Overall
2021	1087	1135	0	0	2222
2041	1486	1217	0	0	2703

Calculated Growth Rates:	1.34%	0.34%	#DIV/0!	#DIV/0!	0.89%
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%

Growth

NB	SB
1.00%	0.00%
1.0%	0.0%

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB	1029	1029	693	693
	3					
1	4					
Coleraine Dr (Screenline South of George Bolton Pkwy)	5	SB	1226	1226	1084	1084
	6					
	7					
	8	EB		0		0
	9					
	10					
	11	WB		0		0
	12					

AM

Year	Street Name NB	SB	Street Name EB	WB	Overall
2021	1029	1226	0	0	2255
2041	693	1084	0	0	1777

Intersection	Index	Movement	2021 AM Peak	2021 AM Corridor	2041 AM Peak	2041 AM Corridor
1	1					
	2	NB	242	242	747	747
	3					
1	4					
Coleraine Dr (Screenline North of George Bolton Pkwy)	5	SB	1225	1225	1112	1112
	6					
	7					
	8	EB		0		0
	9					
	10					
	11	WB		0		0
	12					

AM

Year	Street Name NB	SB	Street Name EB	WB	Overall
2021	242	1225	0	0	1467
2041	747	1112	0	0	1859

Growth

NB	SB

Calculated Growth Rates:	-2.42%	-0.65%	#DIV/0!	#DIV/0!	-1.34%	
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%	

Intersection	Index	Movement	2021		2041	
			AM Peak	AM Corridor	AM Peak	AM Corridor
1	1					
	2	NB	248	248	1075	1075
	3					
1	4					
Coleraine Dr (Screenline South of Healey Rd)	5	SB	1279	1279	1346	1346
	6					
	7					
	8	EB		0		0
	9					
	10					
	11	WB		0		0
	12					

AM

	Street Name		Street Name		
Year	NB	SB	EB	WB	Overall
2021	248	1279	0	0	1527
2041	1075	1346	0	0	2421

Calculated Growth Rates:	3.85%	0.25%	#DIV/0!	#DIV/0!	1.85%	
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%	

Intersection	Index	Movement	2021		2041	
			AM Peak	AM Corridor	AM Peak	AM Corridor
1	1					
	2	NB		0		0
	3					
1	4					
Mayfield Rd (Screenline East of Humber Station Rd)	5	SB		0		0
	6					
	7					
	8	EB	1260	1260	2204	2204
	9					
	10					
	11	WB	402	402	910	910
	12					

AM

	Street Name		Street Name		
Year	NB	SB	EB	WB	Overall
2021	0	0	1260	402	1662
2041	0	0	2204	910	3114

Calculated Growth Rates:	#DIV/0!	#DIV/0!	2.14%	2.79%	2.33%	
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%	

Calculated Growth Rates:	3.38%	-0.51%	#DIV/0!	#DIV/0!	1.05%		2.00%	0.00%
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%		2.0%	0.0%

Intersection	Index	Movement	2021		2041			
			AM Peak	AM Corridor	AM Peak	AM Corridor		
1	1							
	2	NB	243	243	386	386		
	3							
1	4							
Coleraine Dr (Screenline North of Healey Rd)	5	SB	1616	1616	1714	1714		
	6							
	7							
	8	EB		0		0		
	9							
	10							
	11	WB		0		0		
	12							

AM

	Street Name		Street Name		
Year	NB	SB	EB	WB	Overall
2021	243	1616	0	0	1859
2041	386	1714	0	0	2100

Calculated Growth Rates:	1.85%	0.29%	#DIV/0!	#DIV/0!	0.57%	
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%	

Intersection	Index	Movement	2021		2041			
			AM Peak	AM Corridor	AM Peak	AM Corridor		
1	1							
	2	NB		0		0		
	3							
1	4							
Mayfield Rd (Screenline West of Coleraine Dr)	5	SB		0		0		
	6							
	7							
	8	EB	1124	1124	1832	1832		
	9							
	10							
	11	WB	398	398	715	715		
	12							

AM

	Street Name		Street Name		
Year	NB	SB	EB	WB	Overall
2021	0	0	1124	398	1522
2041	0	0	1832	715	2547

Calculated Growth Rates:	#DIV/0!	#DIV/0!	1.93%	2.22%	2.01%	
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%	

Intersection	Index	Movement	2021		2041	
			AM Peak	AM Corridor	AM Peak	AM Corridor
1	1					
	2	NB		0		0
	3					
1	4					
Mayfield Rd (Screenline East of Coleraine Dr)	5	SB		0		0
	6					
	7					
	8	EB	212	212	741	741
	9					
	10					
	11	WB	193	193	313	313
	12					

AM

	Street Name		Street Name		
Year	NB	SB	EB	WB	Overall
2021	0	0	212	193	405
2041	0	0	741	313	1054

Growth

EB	WB

Calculated Growth Rates:	#DIV/0!	#DIV/0!	3.57%	1.92%	3.08%		3.00%	2.00%
Applied Growth Rates:	1.0%	0.5%	0.0%	0.0%	0.0%		3.0%	2.0%

APPENDIX E

Mayfield Widening Correspondences

Christy Leung

From: Kabanov, Serguei <serguei.kabanov@peelregion.ca>
Sent: August 28, 2023 4:36 PM
To: Christy Leung
Cc: Marzo, Christina; Sadek, Sandra
Subject: RE: Option 6 Lands: Mayfield Widening Timing

External Sender

Good Afternoon Christy,

I'm the Regional PM looking after Mayfield Road Widening, from Airport to Coleraine. Christina forwarded me your email with questions.

1. Mayfield Road widening, between Humber Station Road and Coleraine is scheduled for construction in 2026. The project will start at Airport so chances are we won't be doing the stretch you are concerned about until 2027 or later. The stretch from Coleraine to Highway 50 is a separate project and, as of right now, it is scheduled for late 2026 or early 2027. My colleague Sandra, copied on this email, is looking after this project.
2. I can confirm that the jogged intersection at Humber Station Road & Mayfield Road will be addressed with the widening of Mayfield.

If you have any further questions, please do not hesitate to reach out directly.

Serguei Kabanov, CD, CET, rcca
Project Manager, Roads Design and Construction

From: Christy Leung <ChLeung@lea.ca>
Sent: August 28, 2023 2:48 PM
To: Marzo, Christina <christina.marzo@peelregion.ca>
Cc: Chris Sidlar <CSidlar@lea.ca>
Subject: Option 6 Lands: Mayfield Widening Timing

Hi Christina,

If you recall, the Region met with our office earlier this month to discuss the road improvements surrounding the Option 6 lands in Caledon. Further to that discussion, I wanted to confirm timing of the Mayfield Road widening between Humber Station Road and Highway 50. As per the Region's Long Range Transportation Plan, Mayfield is planned to widen by 2031. Given the observed construction activity along this stretch of the roadway, has timing of this improvement moved up in schedule?

Can you also confirm that the jogged intersection at Humber Station Road & Mayfield Road will be addressed with the widening of Mayfield?

Thanks,

Christy Leung, B.E.S.
Transportation Planner
LEA Consulting Ltd.
40 University Avenue, Suite 503 | Toronto, ON | M5J 1T1
T: 905 470 0015 ext. 330 E: ChLeung@lea.ca W: www.LEA.ca

We've Moved!

Our Downtown office has moved, please make note of our new address above.

APPENDIX F

TTS Data

AM IN

Fri Aug 18 2023 14:02:55 GMT-0400 (Eastern Daylight Time) - Run Time: 3953ms

Cross Tabulation QueryForm - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG (3017 3191)
TblG:

Filters:
Start time of trip - start_time in 0600-1000
and
Trip purpose of destination F
and
Primary travel mode of tr M P T

Trip 2016
Table:

	1
51	25
72	43
124	12
149	21
160	21
163	34
173	24
178	23
179	23
191	16
194	11
222	12
223	17
255	13
261	15
261	7
295	6
326	13
363	26
365	52
371	32
376	25
382	20
384	10
385	8
396	8
401	45
413	18
443	17
459	27
481	20
491	15
542	14
568	16
1180	21
2014	22
2017	13
2020	21
2022	31
2023	53
2025	30
2027	13
2057	32
2132	16
2241	22
2245	33
2258	18
2427	16
2434	54
2558	14
2652	31
2659	19
2667	22
2868	27
3,002,118	118
3010	16
3,100,134	134
3104	53
3,153,215	215
3,189,111	111
3190	67
3,192,280	280
3,193,205	205
3194	96
3197	9
3199	50
3227	97
3228	39
3251	53
3252	50
3260	7
3262	12
3263	77
3264	85
3267	42
3272	34
3273	13
3274	24
3275	41
3279	63
3,280,135	135
3286	59
3419	38
3431	12
3434	51
3442	14
3447	30
3448	14
3456	14
3466	18
3468	27
3485	36
3515	23
3516	26
3517	46
3,518,149	149
3529	16
3602	35
3603	18
3606	6
3607	27
3615	18
3617	14
3629	58
3638	7
3644	10
3645	22
3649	7
3664	48
3671	19
3675	23
3681	12
3686	43
3688	8
3714	15
3877	41
4084	32
4110	69
4123	23
4159	55
4160	15
4175	6
8403	78
8405	13
8415	42
8417	21
8526	14
8,502,107	107
8529	21
8561	56
8562	14
8563	68
8585	56
8595	33
8596	68
8597	24
8662	18
8,663,123	123
	5282

Caledon 1354

Fri Aug 18 2023 14:06:25 GMT-0400 (Eastern Daylight Time) - Run Time: 317ms

Cross Tabulation QueryForm - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG (3017 3191)
TblG:

Filters:
Start time of trip - start_time in 0600-1000
and
Trip purpose of destination F
and
Primary travel mode of trip - M P T

Trip 2016
Table:

Inbound Direction

	1	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6	Route 7	Route 8
PD 1 of Toronto	68	0.01	Clarkway Dr S	Mayfield Rd W					
PD 2 of Toronto	12	0	Clarkway Dr S						
PD 3 of Toronto	146	0.03	Clarkway Dr S						
PD 4 of Toronto	40	0.01	Clarkway Dr S						
PD 5 of Toronto	17	0	Clarkway Dr S						
PD 6 of Toronto	35	0.01	Clarkway Dr S						
PD 7 of Toronto	6	0	Clarkway Dr S	Mayfield Rd W					
PD 8 of Toronto	13	0	Clarkway Dr S	Mayfield Rd W					
PD 9 of Toronto	153	0.03	Clarkway Dr S						
PD 10 of Toronto	89	0.02	Clarkway Dr S						
PD 11 of Toronto	44	0.01	Clarkway Dr S						
PD 12 of Toronto	20	0	Clarkway Dr S						
PD 13 of Toronto	15	0	Clarkway Dr S						
PD 14 of Toronto	14	0	Clarkway Dr S						
PD 15 of Toronto	16	0	Clarkway Dr S		Hwy 50 S				
Oshawa	21	0	Clarkway Dr S	Mayfield Rd W					
Georgina	27	0.01			Albion N				
Aurora	14	0			Albion N				
Richmond Hill	74	0.005	Clarkway Dr S		Hwy 50 S				
Markham	70	0.02	Clarkway Dr S						
King	71	0.01			Hwy 50 S	Albion N			
Vaughan	230	0.02	Clarkway Dr S		Hwy 50 S				
3,002,118	118	0.01				Coleraine N	Humber N		
3010	16	0		Mayfield Rd W				Healey W	
3,100,134	134	0.03						Healey W	
3104	53	0.01						Healey W	
3,153,215	215	0.02				Coleraine N	Humber N		
3,189,111	111	0.01				Coleraine N		Healey W	
3190	67	0.01							Healey E
3,192,280	280	0.05							Healey E
3,193,205	205	0.02				Coleraine N		Healey W	
3194	96	0.02				Coleraine N			
3197	9	0						Healey W	
3199	50	0.005				Coleraine N		Healey W	
Brampton	1344	0.25		Mayfield Rd W					
Mississauga	433	0.08		Mayfield Rd W					
Halton Hills	77	0.01						Healey W	
Milton	91	0.01	Clarkway Dr S	Mayfield Rd W					
Burlington	32	0.005	Clarkway Dr S	Mayfield Rd W					
Orangeville	91	0.02						Healey W	
Barrie	14	0	Clarkway Dr S		Albion N				
Innisfil	54	0.005	Clarkway Dr S		Albion N				
New Tecumseth	370	0.04			Albion N	Coleraine N			
Adjala-Tosorontio	163	0.015			Albion N	Coleraine N		Healey W	
Mono	42	0.01						Healey W	
East Gwillimbury	21	0						Healey W	
	5281								

	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6	Route 7	Route 8
	1%	1%						
	0%							
	3%							
	1%							
	0%							
	1%							
	0%	0%						
	0%	0%						
	3%							
	2%							
	1%							
	0%							
	0%							
	0%							
	0%			0%				
	0%	0%						
					1%			
					0%			
	1%		1%					
	2%							
			1%	1%				
	2%		2%					
						1%	1%	
		0%					0%	
							Healey W	
						2%	2%	
						1%		1%
							Healey E	
							Healey E	1%
						2%		2%
						2%		
							Healey W	
						1%	0%	
						1%		
		25%						
		8%						
							Healey W	
							1%	
	1%	1%						
	1%	1%						
							Healey W	
							2%	
	0%							
	1%							
						4%	4%	
						2%	2%	
							2%	
							1%	
							0%	
	18%	35%	3%	8%	14%	3%	13%	6%
	100%							

AM IN

Direction	Route	Distribution
N	Albion Vaughn Rd	8%
	Coleraine Dr	14%
	Humber Station Rd	3%
S	Clarkway Dr	18%
	Hwy 50	3%
E	Healey Rd	6%
W	Healey Rd	13%
	Mayfield Rd	35%
		100%

PM OUT

Fri Aug 18 2023 14:12:08 GMT-0400 (Eastern Daylight Time) - Run Time: 3690ms

Cross Tabulation QueryForm - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG (3017 3191)
TblG:

Filters:
Start time of trip - start_time In 1500-1900
and
Trip purpose of origin - j F
and
Primary travel mode of trip M P T

Trip 2016
Table:

	1
72	43
89	20
124	12
149	21
154	17
160	21
163	47
173	24
178	23
179	23
223	17
239	25
261	15
281	7
326	13
363	26
365	52
371	17
374	7
376	25
382	20
384	10
385	8
396	8
401	85
443	17
459	27
546	14
608	38
1180	21
2005	15
2014	11
2017	13
2020	21
2023	53
2024	30
2027	13
2057	32
2058	13
2072	12
2089	24
2132	16
2133	18
2241	22
2245	33
2427	16
2434	54
2558	14
2652	31
2760	28
3009	44
3,100,153	153
3104	53
3,153,241	241
3,189,111	111
3,190,178	178
3191	14
3,192,261	261
3,193,241	241
3194	67
3197	16
3199	83
3207	65
3208	39
3245	77
3352	29
3357	12
3360	7
3367	42
3368	19
3,371,104	104
3372	34
3373	13
3374	24
3375	41
3379	63
3,380,165	165
3386	59
3387	14
3419	38
3430	18
3434	51
3442	14
3447	61
3448	14
3456	14
3466	18
3468	27
3485	36
3515	23
3516	26
3517	46
3,518,129	129
3519	16
3603	18
3606	6
3607	27
3615	18
3617	14
3629	58
3638	7
3644	10
3664	48
3670	6
3671	19
3678	23
3686	28
3688	8
3714	15
3716	21
3874	12
4030	19
4064	32
4110	86
4123	23
4159	55
4160	15
4173	12
4175	6
6004	42
8,402,105	105
8403	46
8404	13
8405	13
8415	42
8417	21
8523	12
8529	14
8,503,107	107
8559	21
8561	56
8562	14
8563	17
8585	45
8590	22
8595	33
8596	68
8597	24
8640	17
8663	68
	5358

Caledon 1462

Fri Aug 18 2023 14:13:44 GMT-0400 (Eastern Daylight Time) - Run Time: 2656ms

Cross Tabulation QueryForm - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG (3017 3191)
TblG:

Filters:
Start time of trip - start_time In 1500-1900
and
Trip purpose of origin - pur F
and
Primary travel mode of trip M P T

Trip 2016
Table:

Outbound Direction

	1	Dist	Route 1	Route 2	Route 3	Route 4	Route 5	Route 6	Route 7	Route 8
PD 1 of Toronto	63	0.01	Clarkway S							
PD 2 of Toronto	12	0	Clarkway S							
PD 3 of Toronto	176	0.04	Clarkway S							
PD 5 of Toronto	42	0.01	Clarkway S							
PD 6 of Toronto	22	0	Clarkway S							
PD 8 of Toronto	13	0	Clarkway S							
PD 9 of Toronto	146	0.03	Clarkway S							
PD 10 of Toronto	111	0.02	Clarkway S							
PD 11 of Toronto	44	0.01	Clarkway S							
PD 14 of Toronto	14	0	Clarkway S							
PD 16 of Toronto	38	0.01	Clarkway S							
Oshawa	21	0	Clarkway S	Albion N						
East Gwillimbury	28	0.005		Albion N	Coleraine N					
Aurora	14	0	Clarkway S	Albion N						
Richmond Hill	56	0.005	Clarkway S			Hwy 50 S				
Markham	70	0.005	Clarkway S			Hwy 50 S				
King	31	0.005		Albion N	Coleraine N					
Vaughan	271	0.025	Clarkway S			Hwy 50 S				
3009	44	0.005					Mayfield W	Healey W		
3,100,153	153	0.03						Healey W		
3104	53	0.01						Healey W		
3,153,241	241	0.02			Coleraine N			Healey W		
3,189,111	111	0.01			Coleraine N			Healey W		
3,190,178	178	0.015		Albion N					Healey E	
3191	14	0							Healey E	Hwy 50 N
3,192,261	261	0.0165		Albion N					Healey E	Hwy 50 N
3,193,241	241	0.02			Coleraine N					Hwy 50 N
3194	67	0.005			Coleraine N			Healey W		
3197	16	0						Healey W		
3199	83	0.01			Coleraine N			Healey W		
Brampton	1335	0.25					Mayfield W			
Mississauga	339	0.03	Clarkway S				Mayfield W			
Halton Hills	88	0.01					Mayfield W	Healey W		
Milton	109	0.0099	Clarkway S				Mayfield W	Healey W		
Oakville	19	0	Clarkway S				Mayfield W			
Burlington	32	0.005	Clarkway S				Mayfield W			
Grimsby	42	0.01	Clarkway S							
Orangeville	177	0.03						Healey W		
Barrie	27	0.01		Albion N						
Innisfil	76	0.01		Albion N						
Bradford West Gwillimbury	17	0	Clarkway S	Albion N						
New Tecumseth	246	0.025		Albion N	Coleraine N					
Adjala-Tosorontio	152	0.015			Coleraine N			Healey W		
Mono	42	0.01						Healey W		
East Garafraxa	21	0						Healey W		
	5356									

Route 1	Route 2	Route 3	Route 4	Route 5	Route 6	Route 7	Route 8
1%							
0%							
4%							
1%							
0%							
0%							
3%							
2%							
1%							
1%							
0%							
0%	0%						
	1%	1%					
0%	0%						
				1%			
				1%			
	1%	1%					
3%				3%			
					1%	1%	
						3%	
						1%	
	2%						
		2%					
		1%					
						2%	
						0%	0%
	2%					2%	2%
		2%					2%
		1%					
		1%					
		1%					
				25%			
3%				3%			
				1%	1%		
1%				1%	1%		
0%				0%			
1%				1%			
					3%		
	1%						
	1%						
0%	0%						
	3%	3%					
		2%			2%		
					1%		
					0%		
22%	9%	11%	4%	31%	16%	3%	4%
	100%						

PM Out

Direction	Route	Dist		
N	Albion Vaughn Rd	9%		
	Coleraine Drive	11%		
	Hwy 50	4%		
S	Clarkway Dr	22%	15%	7%
	Hwy 50	4%		
E	Healey Rd	3%		
W	Mayfield Rd	31%		
	Healey Rd	16%		
		100%		

APPENDIX G

LOS Definitions

LEVELS OF SERVICE FOR SIGNALIZED INTERSECTIONS: METHODOLOGY

Signalized intersection analyses contained in this report were carried out using methodology described in the ***Highway Capacity Manual,*** *2000 update*, by the Transportation Research Board and implemented using Synchro 11 software.

Analyses of signalized intersections compare the volume of traffic passing through an intersection with the capacity of each of the intersection's approaches. Volumes can be either observed or estimated whereas an intersection's capacity is a function of its geometry, the number of lanes per approach, speeds, signal timing, and other considerations. The level of service is evaluated in terms of the average control delay (seconds) per vehicle, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Delay is a complex measure and is calculated as a function of a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

The criteria for each level of service are given below.

Level of Service	Features	Control Delay (sec/veh)
A	Very low control delay. Occurs when signal progression (i.e. coordination) is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not have to stop.	0.0 – 10.0
B	Occurs with good progression, short cycle length, or both. More vehicles stop than with LOS A.	10.1 – 20.0
C	Occurs with fair progression, longer cycle length, or both. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	20.0 – 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles have to stop. Individual cycle failures are noticeable (i.e. some vehicles require more than one cycle to make it through the intersection).	35.0 – 55.0
E	Considered by many agencies to be the limit of acceptable delay. High delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.	55.0- 80.0
F	Considered to be unacceptable to most drivers and often occurs with oversaturation. It may also occur at high v/c ratios below 1.0 with many individual cycle failures.	80.1 +

LEVELS OF SERVICE FOR UNSIGNALIZED INTERSECTIONS: METHODOLOGY

Unsignalized intersection analyses contained in this report were carried out using methodology described in the ***Highway Capacity Manual*** *(2000 edition)* by the Transportation Research Board and implemented using the Synchro 11 software.

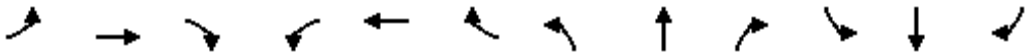
Analyses of unsignalized intersections compare observed or estimated traffic volumes with the capacity of each of the intersection's approaches. The analysis derives an estimation of queue lengths and the resulting delays experienced by vehicles from the time they join a queue to the moment they cross the stop bar at the intersection. Queuing and delays at unsignalized approaches are a function of the volumes of all other conflicting movements and the characteristics of the intersection. Traffic volumes can be either observed or estimated while an intersection's capacity is a function of its geometry, lane configurations, speeds, and other operational considerations. The resulting statistic is termed "average total delay" for each approach and is measured in seconds per vehicle. The delay can then be assigned a letter grade, which provides a simple qualitative assessment of the Level of Service for any unsignalized intersection.

The Level of Service grading for unsignalized intersections is more sensitive than that used for signalized analyses: delays are more onerous at unsignalized intersections as drivers must remain attentive while waiting for acceptable conditions to complete their movement. As a result, the thresholds between grades are lower for unsignalized analyses.

Level of Service	Features	Average Total Delay (sec/veh)
A	Almost no delay occurs. Approaches appear clear and turns are made easily.	0.0 – 10.0
B	Short delays are experienced. Drivers find their movement becoming more restricted.	10.1 – 15.0
C	Longer delays occur. Operation of both the minor and major streets are generally stable but movements from the minor street become more difficult. This level is often used for urban intersection design standards.	15.1 – 25.0
D	Motorists encounter increasing traffic restrictions and substantial delays. Delays on the major street occur as turning traffic interferes with the flow of traffic. Traffic flows are approaching the capacity of the intersection.	25.1 - 35.0
E	At level "E", capacity is reached. There are long queues of vehicles waiting upstream for the approach to clear. Delays to vehicles reach frustrating levels.	35.1- 50.0
F	Intersection saturation occurs as vehicle demand has exceeded the capacity. Drivers will often accept less than ideal gap opportunities; safety is compromised.	50.1 +

APPENDIX H

Existing Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	499	19	73	210	4	6	16	31	72	162	4
Future Volume (vph)	4	499	19	73	210	4	6	16	31	72	162	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	537	20	78	226	4	6	17	33	77	174	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	561	308	56	255
Volume Left (vph)	4	78	6	77
Volume Right (vph)	20	4	33	4
Hadj (s)	0.02	0.08	-0.30	0.06
Departure Headway (s)	5.6	6.0	6.8	6.5
Degree Utilization, x	0.87	0.51	0.11	0.46
Capacity (veh/h)	637	557	455	517
Control Delay (s)	33.9	15.2	10.6	15.0
Approach Delay (s)	33.9	15.2	10.6	15.0
Approach LOS	D	C	B	C

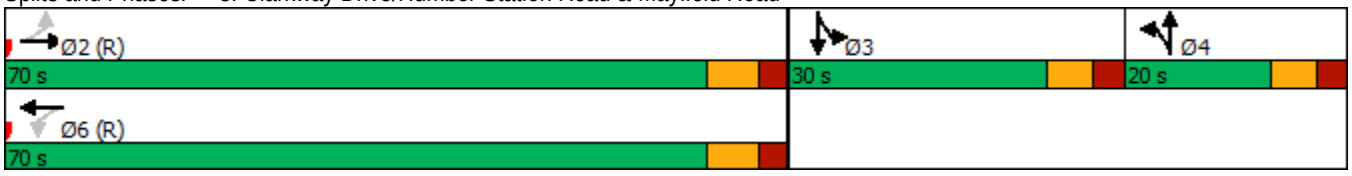
Intersection Summary				
Delay		23.8		
Level of Service		C		
Intersection Capacity Utilization		72.4%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	8	523	67	470	47	247
Future Volume (vph)	8	523	67	470	47	247
Lane Group Flow (vph)	0	582	0	564	177	267
Turn Type	Perm	NA	Perm	NA	NA	NA
Protected Phases		2		6	4	3
Permitted Phases	2		6			
Detector Phase	2	2	6	6	4	3
Switch Phase						
Minimum Initial (s)	12.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	27.3	27.3	27.3	27.3	26.0	27.5
Total Split (s)	70.0	70.0	70.0	70.0	20.0	30.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	16.7%	25.0%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.8	2.8
Lost Time Adjust (s)		0.0		0.0	0.0	0.0
Total Lost Time (s)		7.3		7.3	7.0	7.0
Lead/Lag					Lag	Lead
Lead-Lag Optimize?					Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
v/c Ratio		0.72		0.79	0.89	0.83
Control Delay		27.8		32.9	91.9	69.5
Queue Delay		0.0		0.0	0.0	0.0
Total Delay		27.8		32.9	91.9	69.5
Queue Length 50th (m)		106.1		109.9	44.4	63.3
Queue Length 95th (m)		153.1		164.5	#91.7	#101.1
Internal Link Dist (m)		912.9		1363.4	257.8	3037.3
Turn Bay Length (m)						
Base Capacity (vph)		812		716	200	354
Starvation Cap Reductn		0		0	0	0
Spillback Cap Reductn		0		0	0	0
Storage Cap Reductn		0		0	0	0
Reduced v/c Ratio		0.72		0.79	0.89	0.75

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 31 (26%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

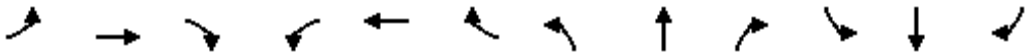
Splits and Phases: 3: Clarkway Drive/Humber Station Road & Mayfield Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	523	28	67	470	4	11	47	112	2	247	8
Future Volume (vph)	8	523	28	67	470	4	11	47	112	2	247	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		7.3			7.3			7.0			7.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.91			1.00	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1552			1583			1646			1846	
Flt Permitted		0.99			0.85			1.00			1.00	
Satd. Flow (perm)		1540			1360			1646			1846	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	8	545	29	70	490	4	11	49	117	2	257	8
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	581	0	0	564	0	0	177	0	0	267	0
Heavy Vehicles (%)	13%	20%	25%	4%	20%	0%	18%	2%	3%	50%	1%	0%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			6		4	4		3	3	
Permitted Phases	2			6								
Actuated Green, G (s)		63.2			63.2			14.6			20.9	
Effective Green, g (s)		63.2			63.2			14.6			20.9	
Actuated g/C Ratio		0.53			0.53			0.12			0.17	
Clearance Time (s)		7.3			7.3			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		811			716			200			321	
v/s Ratio Prot								c0.11			c0.14	
v/s Ratio Perm		0.38			c0.41							
v/c Ratio		0.72			0.79			0.89			0.83	
Uniform Delay, d1		21.6			23.0			51.9			47.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		5.4			8.6			33.8			16.6	
Delay (s)		26.9			31.5			85.7			64.4	
Level of Service		C			C			F			E	
Approach Delay (s)		26.9			31.5			85.7			64.4	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.3
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	21	247	6	34	496	22	16	187	65	22	42	6
Future Volume (vph)	21	247	6	34	496	22	16	187	65	22	42	6
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	22	255	6	35	511	23	16	193	67	23	43	6

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	283	569	276	72
Volume Left (vph)	22	35	16	23
Volume Right (vph)	6	23	67	6
Hadj (s)	0.02	-0.01	-0.10	0.03
Departure Headway (s)	6.1	5.6	6.4	7.2
Degree Utilization, x	0.48	0.89	0.49	0.14
Capacity (veh/h)	553	629	526	445
Control Delay (s)	14.8	37.7	15.5	11.4
Approach Delay (s)	14.8	37.7	15.5	11.4
Approach LOS	B	E	C	B

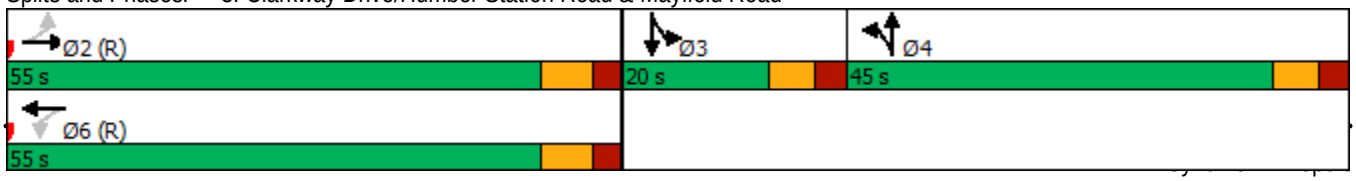
Intersection Summary				
Delay		25.6		
Level of Service		D		
Intersection Capacity Utilization		58.2%	ICU Level of Service	B
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	10	527	52	645	245	62
Future Volume (vph)	10	527	52	645	245	62
Lane Group Flow (vph)	0	573	0	723	426	76
Turn Type	Perm	NA	Perm	NA	NA	NA
Protected Phases		2		6	4	3
Permitted Phases	2		6			
Detector Phase	2	2	6	6	4	3
Switch Phase						
Minimum Initial (s)	12.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	27.3	27.3	27.3	27.3	26.0	26.0
Total Split (s)	55.0	55.0	55.0	55.0	45.0	20.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	37.5%	16.7%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.8	2.8
Lost Time Adjust (s)		0.0		0.0	0.0	0.0
Total Lost Time (s)		7.3		7.3	7.0	7.0
Lead/Lag					Lag	Lead
Lead-Lag Optimize?					Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
v/c Ratio		0.73		0.97	0.88	0.48
Control Delay		34.6		59.8	60.8	62.3
Queue Delay		0.0		0.0	0.0	0.0
Total Delay		34.6		59.8	60.8	62.3
Queue Length 50th (m)		118.3		~194.8	99.4	18.3
Queue Length 95th (m)		#199.1		#289.7	136.1	34.1
Internal Link Dist (m)		912.9		1363.4	257.8	3037.3
Turn Bay Length (m)						
Base Capacity (vph)		786		745	553	195
Starvation Cap Reductn		0		0	0	0
Spillback Cap Reductn		0		0	0	0
Storage Cap Reductn		0		0	0	0
Reduced v/c Ratio		0.73		0.97	0.77	0.39

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 43 (36%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Clarkway Drive/Humber Station Road & Mayfield Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	527	19	52	645	4	59	245	109	0	62	12
Future Volume (vph)	10	527	19	52	645	4	59	245	109	0	62	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		7.3			7.3			7.0			7.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.96			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		1653			1696			1744			1808	
Flt Permitted		0.98			0.91			0.99			1.00	
Satd. Flow (perm)		1629			1545			1744			1808	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	543	20	54	665	4	61	253	112	0	64	12
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	572	0	0	723	0	0	426	0	0	76	0
Heavy Vehicles (%)	20%	13%	11%	2%	11%	0%	12%	2%	1%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA		Split	NA			NA	
Protected Phases		2			6		4	4		3	3	
Permitted Phases	2			6								
Actuated Green, G (s)		56.5			56.5			33.4			8.8	
Effective Green, g (s)		56.5			56.5			33.4			8.8	
Actuated g/C Ratio		0.47			0.47			0.28			0.07	
Clearance Time (s)		7.3			7.3			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		766			727			485			132	
v/s Ratio Prot								c0.24			c0.04	
v/s Ratio Perm		0.35			c0.47							
v/c Ratio		0.75			0.99			0.88			0.58	
Uniform Delay, d1		25.9			31.6			41.4			53.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.5			32.1			16.3			6.0	
Delay (s)		32.5			63.7			57.7			59.8	
Level of Service		C			E			E			E	
Approach Delay (s)		32.5			63.7			57.7			59.8	
Approach LOS		C			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	52.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.3
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX I

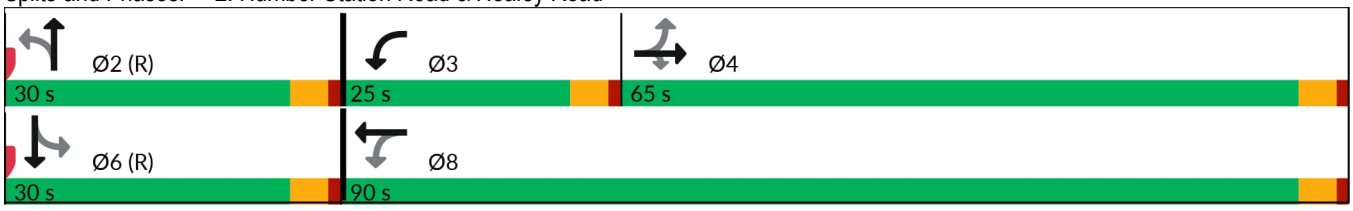
Future Background Intersection Capacity Analysis

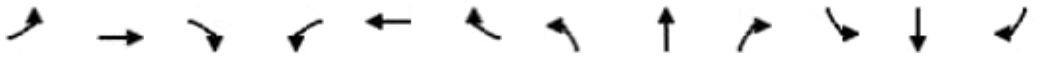
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	4	633	35	73	276	23	18	79	177
Future Volume (vph)	4	633	35	73	276	23	18	79	177
Lane Group Flow (vph)	4	681	38	78	301	25	57	85	194
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	9.5	24.8	24.7	24.7	24.8	24.8
Total Split (s)	65.0	65.0	65.0	25.0	90.0	30.0	30.0	30.0	30.0
Total Split (%)	54.2%	54.2%	54.2%	20.8%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.01	0.85	0.05	0.38	0.31	0.06	0.08	0.16	0.25
Control Delay (s/veh)	16.0	41.5	2.2	17.4	16.0	22.6	8.3	28.4	28.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.0	41.5	2.2	17.4	16.0	22.6	8.3	28.4	28.2
Queue Length 50th (m)	0.6	146.0	0.0	8.7	37.9	4.5	4.1	14.1	33.2
Queue Length 95th (m)	2.4	176.6	3.6	13.6	46.2	12.5	15.0	29.6	58.4
Internal Link Dist (m)		465.5			1349.5		1464.0		452.2
Turn Bay Length (m)	30.0		30.0	60.0		30.0		30.0	
Base Capacity (vph)	412	929	765	351	1306	380	692	515	749
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.73	0.05	0.22	0.23	0.07	0.08	0.17	0.26

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Humber Station Road & Healey Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	633	35	73	276	4	23	18	35	79	177	4
Future Volume (veh/h)	4	633	35	73	276	4	23	18	35	79	177	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1468	1870	1781	1810	1870	1468	1696	1900	1781	1824	1885	1824
Adj Flow Rate, veh/h	4	681	38	78	297	4	25	19	38	85	190	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	25	2	3	1	2	25	9	0	3	0	1	0
Cap, veh/h	383	754	608	173	886	12	469	251	502	617	816	17
Arrive On Green	0.40	0.40	0.40	0.04	0.48	0.48	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	846	1870	1510	1724	1841	25	1078	565	1131	1313	1839	39
Grp Volume(v), veh/h	4	681	38	78	0	301	25	0	57	85	0	194
Grp Sat Flow(s),veh/h/ln	846	1870	1510	1724	0	1866	1078	0	1696	1313	0	1878
Q Serve(g_s), s	0.4	41.0	1.8	3.1	0.0	12.0	1.8	0.0	2.3	4.8	0.0	7.7
Cycle Q Clear(g_c), s	3.0	41.0	1.8	3.1	0.0	12.0	9.5	0.0	2.3	7.1	0.0	7.7
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.67	1.00		0.02
Lane Grp Cap(c), veh/h	383	754	608	173	0	898	469	0	753	617	0	834
V/C Ratio(X)	0.01	0.90	0.06	0.45	0.00	0.34	0.05	0.00	0.08	0.14	0.00	0.23
Avail Cap(c_a), veh/h	468	943	761	398	0	1329	469	0	753	617	0	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	33.6	21.9	27.0	0.0	19.3	23.6	0.0	19.2	21.2	0.0	20.7
Incr Delay (d2), s/veh	0.0	10.2	0.0	1.8	0.0	0.2	0.2	0.0	0.2	0.5	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.4	0.3	0.6	0.0	2.2	0.3	0.0	0.5	0.8	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.1	43.8	22.0	28.8	0.0	19.5	23.8	0.0	19.4	21.7	0.0	21.4
LnGrp LOS	C	D	C	C		B	C		B	C		C
Approach Vol, veh/h		723			379			82			279	
Approach Delay, s/veh		42.6			21.4			20.8			21.5	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		57.8	9.4	52.9		57.8		62.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5	20.5	60.5		25.5		85.5				
Max Q Clear Time (g_c+I1), s		11.5	5.1	43.0		9.7		14.0				
Green Ext Time (p_c), s		0.3	0.2	5.4		1.4		2.4				

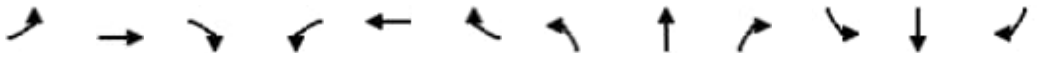
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			31.8									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	769	28	102	581	21	11	53	23	262
Future Volume (vph)	8	769	28	102	581	21	11	53	23	262
Lane Group Flow (vph)	8	801	29	106	605	22	11	265	24	281
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	8.0	8.0	8.0
Minimum Split (s)	27.3	27.3	27.3	27.5	27.5	27.5	26.0	26.0	27.5	27.5
Total Split (s)	70.0	70.0	70.0	70.0	70.0	70.0	50.0	50.0	50.0	50.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3	7.3	7.3	7.0	7.0	7.0	7.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.01	0.26	0.03	0.27	0.29	0.02	0.11	0.61	0.21	0.76
Control Delay (s/veh)	8.2	8.2	2.2	11.1	8.6	1.4	39.1	24.7	53.2	70.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.2	8.2	2.2	11.1	8.6	1.4	39.1	24.7	53.2	70.2
Queue Length 50th (m)	0.6	25.5	0.0	9.4	28.3	0.0	2.3	26.5	5.9	71.9
Queue Length 95th (m)	2.8	39.2	3.1	23.4	46.0	2.0	7.4	51.4	14.8	99.0
Internal Link Dist (m)		1635.6			199.2			1951.8		1542.4
Turn Bay Length (m)	150.0		105.0	150.0		115.0	75.0		105.0	
Base Capacity (vph)	447	3043	834	381	2082	1029	172	665	207	663
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.26	0.03	0.28	0.29	0.02	0.06	0.40	0.12	0.42

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: Clarkway Drive/Humber Station Road & Mayfield Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	769	28	102	581	21	11	53	202	23	262	8
Future Volume (veh/h)	8	769	28	102	581	21	11	53	202	23	262	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1639	1678	1468	1724	1648	1810	1568	1870	1767	1696	1885	1824
Adj Flow Rate, veh/h	8	801	29	106	605	22	11	55	210	24	273	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	13	15	25	7	17	1	18	2	4	9	1	0
Cap, veh/h	475	3078	836	437	2105	1031	124	71	271	116	380	11
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	700	4580	1244	626	3131	1534	921	340	1297	1010	1822	53
Grp Volume(v), veh/h	8	801	29	106	605	22	11	0	265	24	0	281
Grp Sat Flow(s),veh/h/ln	700	1527	1244	626	1566	1534	921	0	1637	1010	0	1876
Q Serve(g_s), s	0.6	8.3	0.9	9.7	9.4	0.6	1.4	0.0	18.3	2.8	0.0	16.7
Cycle Q Clear(g_c), s	10.0	8.3	0.9	18.1	9.4	0.6	18.1	0.0	18.3	21.1	0.0	16.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.03
Lane Grp Cap(c), veh/h	475	3078	836	437	2105	1031	124	0	342	116	0	391
V/C Ratio(X)	0.02	0.26	0.03	0.24	0.29	0.02	0.09	0.00	0.78	0.21	0.00	0.72
Avail Cap(c_a), veh/h	475	3078	836	437	2105	1031	262	0	587	268	0	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.0	7.8	6.6	11.4	8.0	6.5	52.6	0.0	44.8	54.8	0.0	44.2
Incr Delay (d2), s/veh	0.1	0.2	0.1	1.3	0.3	0.0	0.3	0.0	3.8	0.9	0.0	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.4	0.1	0.0	0.2	0.0	5.1	0.5	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.1	8.0	6.7	12.7	8.3	6.6	52.9	0.0	48.6	55.7	0.0	46.7
LnGrp LOS	B	A	A	B	A	A	D		D	E		D
Approach Vol, veh/h		838			733			276			305	
Approach Delay, s/veh		8.0			8.9			48.8			47.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		88.0		32.0		88.0		32.0				
Change Period (Y+Rc), s		7.3		7.0		7.3		7.0				
Max Green Setting (Gmax), s		62.7		43.0		62.7		43.0				
Max Q Clear Time (g_c+I1), s		12.0		20.3		20.1		23.1				
Green Ext Time (p_c), s		8.7		2.0		7.7		1.9				

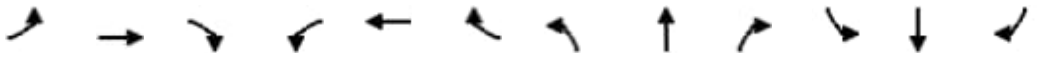
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			19.1									
HCM 6th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	21	315	14	34	652	54	211	25	48
Future Volume (vph)	21	315	14	34	652	54	211	25	48
Lane Group Flow (vph)	22	325	14	35	695	56	293	26	55
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	24.8	24.8	24.8	9.5	24.8	24.7	24.7	24.7	24.7
Total Split (s)	62.0	62.0	62.0	10.0	72.0	48.0	48.0	48.0	48.0
Total Split (%)	51.7%	51.7%	51.7%	8.3%	60.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.17	0.43	0.02	0.09	0.81	0.10	0.35	0.06	0.06
Control Delay (s/veh)	24.5	26.6	0.0	15.4	35.6	20.3	23.4	22.4	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.5	26.6	0.0	15.4	35.6	20.3	23.4	22.4	19.5
Queue Length 50th (m)	3.6	59.3	0.0	4.6	142.4	12.3	67.5	3.6	6.6
Queue Length 95th (m)	9.1	73.6	0.0	8.8	162.6	25.2	99.0	10.8	17.0
Internal Link Dist (m)		465.5			1349.5		1464.0		452.2
Turn Bay Length (m)	30.0		30.0	60.0		30.0		30.0	
Base Capacity (vph)	151	882	703	360	1040	545	836	404	847
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.37	0.02	0.10	0.67	0.10	0.35	0.06	0.06

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Humber Station Road & Healey Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	315	14	34	652	22	54	211	73	25	48	6
Future Volume (veh/h)	21	315	14	34	652	22	54	211	73	25	48	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1870	1724	1781	1885	1753	1696	1885	1781	1824	1870	1824
Adj Flow Rate, veh/h	22	325	14	35	672	23	56	218	75	26	49	6
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	7	3	1	5	9	1	3	0	2	0
Cap, veh/h	109	649	507	316	748	26	668	687	236	502	837	102
Arrive On Green	0.35	0.35	0.35	0.03	0.41	0.41	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	731	1870	1461	1696	1812	62	1223	1341	461	1059	1634	200
Grp Volume(v), veh/h	22	325	14	35	0	695	56	0	293	26	0	55
Grp Sat Flow(s),veh/h/ln	731	1870	1461	1696	0	1874	1223	0	1802	1059	0	1834
Q Serve(g_s), s	3.5	16.5	0.8	1.5	0.0	41.5	2.9	0.0	11.4	1.8	0.0	1.8
Cycle Q Clear(g_c), s	37.1	16.5	0.8	1.5	0.0	41.5	4.7	0.0	11.4	13.1	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.26	1.00		0.11
Lane Grp Cap(c), veh/h	109	649	507	316	0	774	668	0	923	502	0	939
V/C Ratio(X)	0.20	0.50	0.03	0.11	0.00	0.90	0.08	0.00	0.32	0.05	0.00	0.06
Avail Cap(c_a), veh/h	206	896	700	345	0	1054	668	0	923	502	0	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	31.0	25.9	24.1	0.0	32.9	15.9	0.0	17.1	20.9	0.0	14.7
Incr Delay (d2), s/veh	0.9	0.6	0.0	0.2	0.0	8.1	0.2	0.0	0.9	0.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.2	0.2	0.3	0.0	10.9	0.4	0.0	2.0	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.8	31.6	25.9	24.3	0.0	41.0	16.2	0.0	18.0	21.1	0.0	14.8
LnGrp LOS	D	C	C	C		D	B		B	C		B
Approach Vol, veh/h		361			730			349			81	
Approach Delay, s/veh		32.8			40.2			17.7			16.8	
Approach LOS		C			D			B			B	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		65.9	7.9	46.1		65.9		54.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5	5.5	57.5		43.5		67.5				
Max Q Clear Time (g_c+I1), s		13.4	3.5	39.1		15.1		43.5				
Green Ext Time (p_c), s		2.5	0.0	2.3		0.4		6.0				

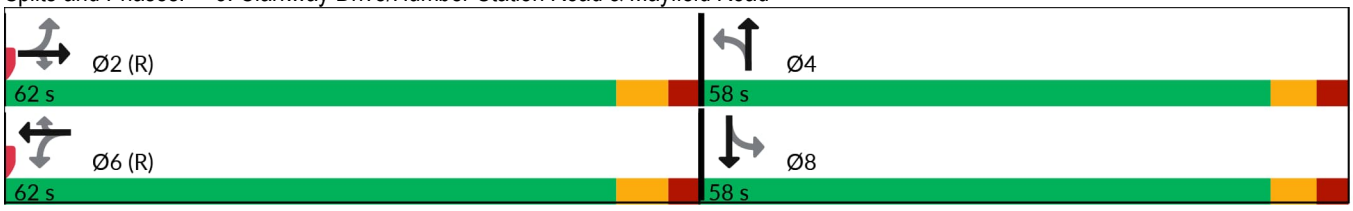
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	32.0
HCM 6th LOS	C

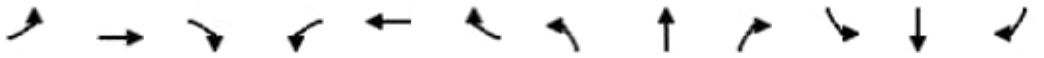
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	10	704	19	135	847	42	59	277	11	66
Future Volume (vph)	10	704	19	135	847	42	59	277	11	66
Lane Group Flow (vph)	10	726	20	139	873	43	61	455	11	80
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	8.0	8.0	8.0
Minimum Split (s)	27.3	27.3	27.3	27.3	27.3	27.3	26.0	26.0	26.0	26.0
Total Split (s)	62.0	62.0	62.0	62.0	62.0	62.0	58.0	58.0	58.0	58.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%	48.3%	48.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3	7.3	7.3	7.0	7.0	7.0	7.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.03	0.27	0.02	0.41	0.42	0.05	0.18	0.83	0.12	0.16
Control Delay (s/veh)	14.8	13.9	2.2	21.2	16.1	4.6	29.5	49.4	32.8	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.8	13.9	2.2	21.2	16.1	4.6	29.5	49.4	32.8	31.2
Queue Length 50th (m)	1.0	31.2	0.0	18.1	60.4	0.0	11.1	98.6	1.8	13.8
Queue Length 95th (m)	4.5	48.3	2.3	43.8	93.2	6.2	19.7	123.0	6.4	25.1
Internal Link Dist (m)		1635.6			199.2			1951.8		1542.4
Turn Bay Length (m)	150.0		105.0	150.0		115.0	75.0		105.0	
Base Capacity (vph)	280	2676	801	336	2048	797	474	756	141	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.27	0.02	0.41	0.43	0.05	0.13	0.60	0.08	0.10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: Clarkway Drive/Humber Station Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	704	19	135	847	42	59	277	164	11	66	12
Future Volume (veh/h)	10	704	19	135	847	42	59	277	164	11	66	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1737	1668	1696	1885	1653	1653	1885	1767	1696	1870	1824
Adj Flow Rate, veh/h	10	726	20	139	873	43	61	286	169	11	68	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	11	11	9	1	12	12	1	4	9	2	0
Cap, veh/h	327	2789	831	393	2107	824	363	325	192	100	453	80
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	585	4742	1413	648	3582	1401	1166	1111	656	849	1548	273
Grp Volume(v), veh/h	10	726	20	139	873	43	61	0	455	11	0	80
Grp Sat Flow(s),veh/h/ln	585	1581	1413	648	1791	1401	1166	0	1767	849	0	1821
Q Serve(g_s), s	1.1	8.9	0.7	15.9	15.9	1.6	4.9	0.0	29.4	1.5	0.0	3.9
Cycle Q Clear(g_c), s	17.1	8.9	0.7	24.9	15.9	1.6	8.8	0.0	29.4	30.9	0.0	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		0.15
Lane Grp Cap(c), veh/h	327	2789	831	393	2107	824	363	0	517	100	0	533
V/C Ratio(X)	0.03	0.26	0.02	0.35	0.41	0.05	0.17	0.00	0.88	0.11	0.00	0.15
Avail Cap(c_a), veh/h	327	2789	831	393	2107	824	517	0	751	213	0	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	12.0	10.3	18.1	13.5	10.5	34.7	0.0	40.4	55.2	0.0	31.4
Incr Delay (d2), s/veh	0.2	0.2	0.1	2.5	0.6	0.1	0.2	0.0	8.4	0.5	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.1	1.1	1.6	0.1	0.9	0.0	8.7	0.2	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.3	12.2	10.4	20.5	14.1	10.6	34.9	0.0	48.9	55.6	0.0	31.5
LnGrp LOS	B	B	B	C	B	B	C		D	E		C
Approach Vol, veh/h		756			1055			516			91	
Approach Delay, s/veh		12.3			14.8			47.2			34.4	
Approach LOS		B			B			D			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		77.9		42.1		77.9		42.1				
Change Period (Y+Rc), s		7.3		7.0		7.3		7.0				
Max Green Setting (Gmax), s		54.7		51.0		54.7		51.0				
Max Q Clear Time (g_c+I1), s		19.1		31.4		26.9		32.9				
Green Ext Time (p_c), s		7.2		3.7		10.2		0.4				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			21.7									
HCM 6th LOS			C									

APPENDIX J

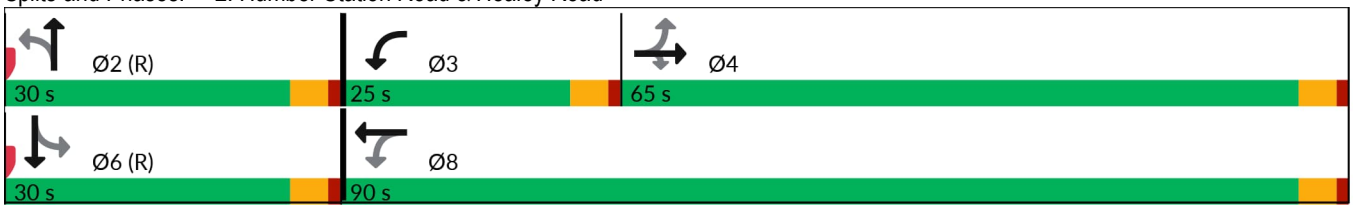
Future Total Intersection Capacity Analysis

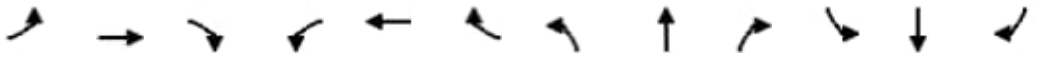
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	4	633	63	116	276	35	18	79	183
Future Volume (vph)	4	633	63	116	276	35	18	79	183
Lane Group Flow (vph)	4	681	68	125	301	38	74	85	201
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	5.0	5.0	8.0	8.0	5.0	5.0
Minimum Split (s)	24.8	24.8	24.8	9.5	24.8	24.7	24.7	24.8	24.8
Total Split (s)	65.0	65.0	65.0	25.0	90.0	30.0	30.0	30.0	30.0
Total Split (%)	54.2%	54.2%	54.2%	20.8%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.01	0.85	0.10	0.55	0.29	0.11	0.11	0.18	0.29
Control Delay (s/veh)	16.0	41.5	6.0	21.9	13.9	27.9	12.6	30.4	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.0	41.5	6.0	21.9	13.9	27.9	12.6	30.4	30.6
Queue Length 50th (m)	0.6	146.0	1.8	13.7	36.2	6.6	3.6	14.5	35.6
Queue Length 95th (m)	2.4	176.6	9.1	22.0	43.7	16.0	15.0	30.5	62.3
Internal Link Dist (m)		465.5			1349.5		1464.0		452.2
Turn Bay Length (m)	30.0		30.0	60.0		30.0		30.0	
Base Capacity (vph)	412	929	751	351	1306	330	617	464	685
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.73	0.09	0.36	0.23	0.12	0.12	0.18	0.29

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Humber Station Road & Healey Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	633	63	116	276	4	35	18	51	79	183	4
Future Volume (veh/h)	4	633	63	116	276	4	35	18	51	79	183	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1468	1870	1753	1781	1870	1468	1668	1900	1710	1824	1885	1824
Adj Flow Rate, veh/h	4	681	68	125	297	4	38	19	55	85	197	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	25	2	5	3	2	25	11	0	8	0	1	0
Cap, veh/h	402	755	600	204	923	12	433	182	528	573	780	16
Arrive On Green	0.40	0.40	0.40	0.06	0.50	0.50	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	846	1870	1485	1696	1841	25	1053	430	1246	1293	1841	37
Grp Volume(v), veh/h	4	681	68	125	0	301	38	0	74	85	0	201
Grp Sat Flow(s),veh/h/ln	846	1870	1485	1696	0	1866	1053	0	1676	1293	0	1878
Q Serve(g_s), s	0.3	41.0	3.4	5.0	0.0	11.5	2.9	0.0	3.2	5.1	0.0	8.3
Cycle Q Clear(g_c), s	0.3	41.0	3.4	5.0	0.0	11.5	11.2	0.0	3.2	8.3	0.0	8.3
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.74	1.00		0.02
Lane Grp Cap(c), veh/h	402	755	600	204	0	935	433	0	710	573	0	796
V/C Ratio(X)	0.01	0.90	0.11	0.61	0.00	0.32	0.09	0.00	0.10	0.15	0.00	0.25
Avail Cap(c_a), veh/h	487	943	749	392	0	1329	433	0	710	573	0	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	33.5	22.3	26.8	0.0	17.8	25.9	0.0	20.8	23.3	0.0	22.3
Incr Delay (d2), s/veh	0.0	10.0	0.1	3.0	0.0	0.2	0.4	0.0	0.3	0.5	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.3	0.6	1.0	0.0	2.0	0.5	0.0	0.7	0.9	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.4	43.6	22.4	29.8	0.0	18.0	26.3	0.0	21.1	23.9	0.0	23.1
LnGrp LOS	C	D	C	C		B	C		C	C		C
Approach Vol, veh/h		753			426			112			286	
Approach Delay, s/veh		41.5			21.4			22.9			23.3	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		55.3	11.7	53.0		55.3		64.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5	20.5	60.5		25.5		85.5				
Max Q Clear Time (g_c+I1), s		13.2	7.0	43.0		10.3		13.5				
Green Ext Time (p_c), s		0.4	0.3	5.5		1.4		2.4				

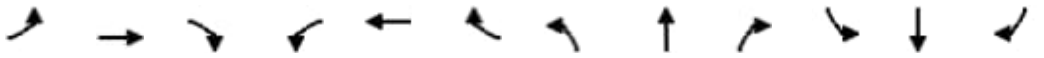
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	31.5
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	85	769	28	102	581	45	11	91	29	278
Future Volume (vph)	85	769	28	102	581	45	11	91	29	278
Lane Group Flow (vph)	89	801	29	106	605	47	11	305	30	322
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	8.0	8.0	8.0
Minimum Split (s)	27.3	27.3	27.3	27.5	27.5	27.5	26.0	26.0	27.5	27.5
Total Split (s)	70.0	70.0	70.0	70.0	70.0	70.0	50.0	50.0	50.0	50.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3	7.3	7.3	7.0	7.0	7.0	7.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.20	0.27	0.03	0.29	0.30	0.05	0.11	0.68	0.23	0.79
Control Delay (s/veh)	11.1	9.7	2.6	13.1	10.2	3.0	36.1	34.9	45.0	63.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.1	9.7	2.6	13.1	10.2	3.0	36.1	34.9	45.0	63.7
Queue Length 50th (m)	8.1	28.2	0.0	10.4	31.3	0.0	2.2	46.3	7.2	82.1
Queue Length 95th (m)	19.9	43.1	3.4	25.8	50.5	5.2	7.1	71.5	17.2	110.7
Internal Link Dist (m)		1635.6			199.2			1951.8		1542.4
Turn Bay Length (m)	150.0		105.0	150.0		115.0	75.0		105.0	
Base Capacity (vph)	445	2919	801	362	1996	921	156	648	202	643
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.27	0.04	0.29	0.30	0.05	0.07	0.47	0.15	0.50

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: Clarkway Drive/Humber Station Road & Mayfield Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	769	28	102	581	45	11	91	202	29	278	31
Future Volume (veh/h)	85	769	28	102	581	45	11	91	202	29	278	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1710	1678	1468	1724	1648	1696	1568	1856	1767	1810	1870	1639
Adj Flow Rate, veh/h	89	801	29	106	605	47	11	95	210	30	290	32
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	8	15	25	7	17	9	18	3	4	1	2	13
Cap, veh/h	459	2954	803	417	2020	927	125	121	268	125	390	43
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	713	4580	1244	626	3131	1437	887	514	1137	1040	1655	183
Grp Volume(v), veh/h	89	801	29	106	605	47	11	0	305	30	0	322
Grp Sat Flow(s),veh/h/ln	713	1527	1244	626	1566	1437	887	0	1651	1040	0	1837
Q Serve(g_s), s	7.5	9.0	1.0	10.5	10.2	1.4	1.4	0.0	20.8	3.3	0.0	19.5
Cycle Q Clear(g_c), s	17.7	9.0	1.0	19.6	10.2	1.4	20.9	0.0	20.8	24.1	0.0	19.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		0.10
Lane Grp Cap(c), veh/h	459	2954	803	417	2020	927	125	0	389	125	0	433
V/C Ratio(X)	0.19	0.27	0.04	0.25	0.30	0.05	0.09	0.00	0.78	0.24	0.00	0.74
Avail Cap(c_a), veh/h	459	2954	803	417	2020	927	234	0	592	252	0	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.3	9.2	7.7	13.4	9.4	7.8	52.2	0.0	43.0	54.3	0.0	42.5
Incr Delay (d2), s/veh	0.9	0.2	0.1	1.5	0.4	0.1	0.3	0.0	3.9	1.0	0.0	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.2	0.0	0.6	0.3	0.1	0.2	0.0	5.7	0.6	0.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.2	9.4	7.8	14.8	9.8	7.9	52.5	0.0	46.8	55.3	0.0	45.0
LnGrp LOS	B	A	A	B	A	A	D		D	E		D
Approach Vol, veh/h		919			758			316			352	
Approach Delay, s/veh		9.8			10.3			47.0			45.9	
Approach LOS		A			B			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		84.7		35.3		84.7		35.3				
Change Period (Y+Rc), s		7.3		7.0		7.3		7.0				
Max Green Setting (Gmax), s		62.7		43.0		62.7		43.0				
Max Q Clear Time (g_c+I1), s		19.7		22.9		21.6		26.1				
Green Ext Time (p_c), s		9.7		2.2		7.8		2.2				

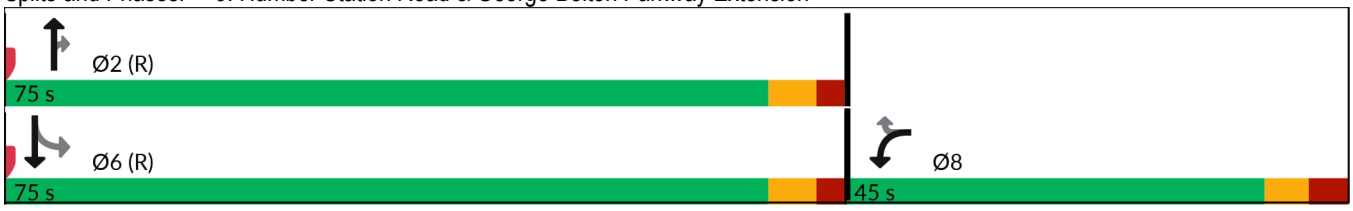
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			20.4									
HCM 6th LOS			C									

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	46	29	82	139	79	293
Future Volume (vph)	46	29	82	139	79	293
Lane Group Flow (vph)	46	29	82	139	79	293
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	29.5	29.5	32.7	32.7	32.7	32.7
Total Split (s)	45.0	45.0	75.0	75.0	75.0	75.0
Total Split (%)	37.5%	37.5%	62.5%	62.5%	62.5%	62.5%
Yellow Time (s)	4.0	4.0	4.2	4.2	4.2	4.2
All-Red Time (s)	3.5	3.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	6.7	6.7	6.7	6.7
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.27	0.19	0.05	0.11	0.08	0.19
Control Delay (s/veh)	54.8	19.9	2.9	1.0	3.2	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.8	19.9	2.9	1.0	3.2	3.2
Queue Length 50th (m)	10.7	0.0	2.8	0.0	2.4	9.6
Queue Length 95th (m)	23.1	9.6	9.3	6.8	9.9	28.1
Internal Link Dist (m)	339.3		1542.4			1464.0
Turn Bay Length (m)	30.0			30.0	50.0	
Base Capacity (vph)	516	409	1476	1186	953	1534
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.07	0.06	0.12	0.08	0.19

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 9: Humber Station Road & George Bolton Parkway Extension



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	46	29	82	139	79	293
Future Volume (veh/h)	46	29	82	139	79	293
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1796	1525	1826	1724	1710	1885
Adj Flow Rate, veh/h	46	29	82	139	79	293
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	21	5	7	8	1
Cap, veh/h	157	119	1442	1154	887	1489
Arrive On Green	0.09	0.09	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1710	1293	1826	1461	1061	1885
Grp Volume(v), veh/h	46	29	82	139	79	293
Grp Sat Flow(s),veh/h/ln	1710	1293	1826	1461	1061	1885
Q Serve(g_s), s	3.0	2.5	1.2	2.7	2.1	4.6
Cycle Q Clear(g_c), s	3.0	2.5	1.2	2.7	3.3	4.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	157	119	1442	1154	887	1489
V/C Ratio(X)	0.29	0.24	0.06	0.12	0.09	0.20
Avail Cap(c_a), veh/h	534	404	1442	1154	887	1489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	50.6	2.8	2.9	3.1	3.1
Incr Delay (d2), s/veh	1.0	1.1	0.1	0.2	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.6	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.9	51.7	2.8	3.1	3.3	3.4
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	75		221			372
Approach Delay, s/veh	51.8		3.0			3.4
Approach LOS	D		A			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		101.5			101.5	18.5
Change Period (Y+Rc), s		6.7			6.7	7.5
Max Green Setting (Gmax), s		68.3			68.3	37.5
Max Q Clear Time (g_c+I1), s		4.7			6.6	5.0
Green Ext Time (p_c), s		1.3			2.8	0.3

Intersection Summary		
HCM 6th Ctrl Delay, s/veh		8.7
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	98	34	0	0	41
Future Vol, veh/h	120	98	34	0	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	30	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	7	21	0	0	2
Mvmt Flow	130	107	37	0	0	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	37	0	-	0	404	37
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	367	-
Critical Hdwy	4.18	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.272	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1536	-	-	0	606	1035
Stage 1	-	-	-	0	991	-
Stage 2	-	-	-	0	705	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1536	-	-	-	551	1035
Mov Cap-2 Maneuver	-	-	-	-	551	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	705	-

Approach	EB	WB	SB
HCM Control Delay, s/v	4.2	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	1536	-	-	-	1035
HCM Lane V/C Ratio	0.085	-	-	-	0.043
HCM Control Delay (s/veh)	7.6	0	-	0	8.6
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q (veh)	0.3	-	-	-	0.1

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	98	0	0	0	0	34
Future Vol, veh/h	98	0	0	0	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	0	0	0	0	21
Mvmt Flow	107	0	0	0	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.17	-	-	-	-	6.41
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.263	-	-	-	-	3.489
Pot Cap-1 Maneuver	1589	-	-	-	0	1030
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1589	-	-	-	-	1030
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	7.4	0	8.6
HCM LOS			A

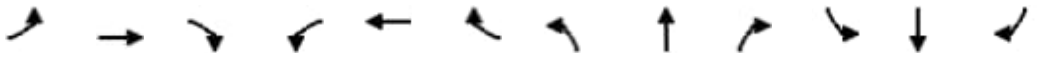
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1589	-	-	-	1030
HCM Lane V/C Ratio	0.067	-	-	-	0.036
HCM Control Delay (s/veh)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q (veh)	0.2	-	-	-	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	21	315	27	55	652	90	211	25	51
Future Volume (vph)	21	315	27	55	652	90	211	25	51
Lane Group Flow (vph)	22	325	28	57	695	93	344	26	59
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	24.8	24.8	24.8	9.5	24.8	24.7	24.7	24.7	24.7
Total Split (s)	62.0	62.0	62.0	10.0	72.0	48.0	48.0	48.0	48.0
Total Split (%)	51.7%	51.7%	51.7%	8.3%	60.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.18	0.44	0.05	0.17	0.81	0.17	0.42	0.07	0.07
Control Delay (s/veh)	25.5	28.1	1.3	16.7	35.6	20.6	22.4	22.6	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.5	28.1	1.3	16.7	35.6	20.6	22.4	22.6	19.8
Queue Length 50th (m)	3.6	59.3	0.0	7.6	142.4	18.1	69.3	3.6	7.3
Queue Length 95th (m)	9.2	73.6	1.7	12.9	162.6	32.1	97.4	10.9	18.1
Internal Link Dist (m)		465.5			1349.5		1464.0		452.2
Turn Bay Length (m)	30.0		30.0	60.0		30.0		30.0	
Base Capacity (vph)	147	882	656	326	1040	538	816	365	833
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.37	0.04	0.17	0.67	0.17	0.42	0.07	0.07

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Humber Station Road & Healey Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	315	27	55	652	22	90	211	122	25	51	6
Future Volume (veh/h)	21	315	27	55	652	22	90	211	122	25	51	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1824	1870	1611	1668	1885	1753	1682	1885	1739	1824	1841	1824
Adj Flow Rate, veh/h	22	325	28	57	672	23	93	218	126	26	53	6
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	15	11	1	5	10	1	6	0	4	0
Cap, veh/h	109	636	464	301	748	26	659	574	332	459	831	94
Arrive On Green	0.34	0.34	0.34	0.04	0.41	0.41	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	731	1870	1365	1588	1812	62	1208	1121	648	1011	1624	184
Grp Volume(v), veh/h	22	325	28	57	0	695	93	0	344	26	0	59
Grp Sat Flow(s),veh/h/ln	731	1870	1365	1588	0	1874	1208	0	1769	1011	0	1808
Q Serve(g_s), s	3.5	16.7	1.7	2.7	0.0	41.5	5.0	0.0	14.1	1.9	0.0	2.0
Cycle Q Clear(g_c), s	36.2	16.7	1.7	2.7	0.0	41.5	7.0	0.0	14.1	16.1	0.0	2.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.37	1.00		0.10
Lane Grp Cap(c), veh/h	109	636	464	301	0	774	659	0	906	459	0	926
V/C Ratio(X)	0.20	0.51	0.06	0.19	0.00	0.90	0.14	0.00	0.38	0.06	0.00	0.06
Avail Cap(c_a), veh/h	211	896	654	317	0	1054	659	0	906	459	0	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	31.6	26.7	24.5	0.0	32.9	16.5	0.0	17.7	22.6	0.0	14.8
Incr Delay (d2), s/veh	0.9	0.6	0.1	0.3	0.0	8.1	0.4	0.0	1.2	0.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.3	0.3	0.6	0.0	10.9	0.6	0.0	2.4	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.8	32.3	26.7	24.8	0.0	41.0	17.0	0.0	18.9	22.8	0.0	14.9
LnGrp LOS	D	C	C	C		D	B		B	C		B
Approach Vol, veh/h		375			752			437			85	
Approach Delay, s/veh		33.2			39.8			18.5			17.3	
Approach LOS		C			D			B			B	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		65.9	8.8	45.3		65.9		54.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5	5.5	57.5		43.5		67.5				
Max Q Clear Time (g_c+I1), s		16.1	4.7	38.2		18.1		43.5				
Green Ext Time (p_c), s		3.2	0.0	2.5		0.4		6.0				

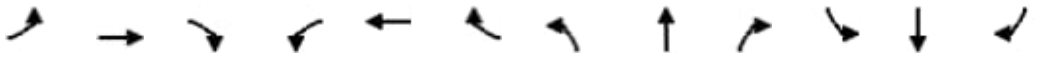
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	31.5
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	45	704	19	135	847	54	59	295	31	114
Future Volume (vph)	45	704	19	135	847	54	59	295	31	114
Lane Group Flow (vph)	46	726	20	139	873	56	61	473	32	202
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	8.0	8.0	8.0	8.0
Minimum Split (s)	27.3	27.3	27.3	27.3	27.3	27.3	26.0	26.0	26.0	26.0
Total Split (s)	62.0	62.0	62.0	62.0	62.0	62.0	58.0	58.0	58.0	58.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%	48.3%	48.3%
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.2	4.2	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	7.3	7.3	7.3	7.3	7.0	7.0	7.0	7.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio	0.20	0.27	0.02	0.42	0.47	0.07	0.21	0.84	0.31	0.38
Control Delay (s/veh)	19.0	14.8	2.3	22.6	17.8	4.5	29.3	49.1	48.4	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.0	14.8	2.3	22.6	17.8	4.5	29.3	49.1	48.4	42.6
Queue Length 50th (m)	5.4	32.5	0.0	18.9	64.7	0.0	11.0	102.7	7.4	50.2
Queue Length 95th (m)	16.0	49.7	2.3	45.2	99.5	7.3	19.7	127.8	18.7	72.9
Internal Link Dist (m)		1635.6			199.2			1951.8		1542.4
Turn Bay Length (m)	150.0		105.0	150.0		115.0	75.0		105.0	
Base Capacity (vph)	226	2613	783	326	1835	765	386	747	138	705
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.28	0.03	0.43	0.48	0.07	0.16	0.63	0.23	0.29

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: Clarkway Drive/Humber Station Road & Mayfield Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	704	19	135	847	54	59	295	164	31	114	81
Future Volume (veh/h)	45	704	19	135	847	54	59	295	164	31	114	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1511	1737	1668	1696	1752	1611	1653	1856	1767	1682	1841	1696
Adj Flow Rate, veh/h	46	726	20	139	873	56	61	304	169	32	118	84
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	22	11	11	9	10	15	12	3	4	10	4	9
Cap, veh/h	258	2666	795	373	1871	767	297	357	198	114	319	227
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	487	4742	1413	648	3328	1365	1043	1121	623	828	1000	712
Grp Volume(v), veh/h	46	726	20	139	873	56	61	0	473	32	0	202
Grp Sat Flow(s),veh/h/ln	487	1581	1413	648	1664	1365	1043	0	1743	828	0	1713
Q Serve(g_s), s	7.4	9.5	0.8	16.9	18.7	2.2	5.8	0.0	30.4	4.5	0.0	10.9
Cycle Q Clear(g_c), s	26.1	9.5	0.8	26.4	18.7	2.2	16.7	0.0	30.4	35.0	0.0	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.42
Lane Grp Cap(c), veh/h	258	2666	795	373	1871	767	297	0	555	114	0	546
V/C Ratio(X)	0.18	0.27	0.03	0.37	0.47	0.07	0.21	0.00	0.85	0.28	0.00	0.37
Avail Cap(c_a), veh/h	258	2666	795	373	1871	767	408	0	741	202	0	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.3	13.6	11.7	20.4	15.6	12.0	38.0	0.0	38.2	54.6	0.0	31.6
Incr Delay (d2), s/veh	1.5	0.3	0.1	2.8	0.8	0.2	0.3	0.0	7.3	1.3	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.0	0.1	1.3	2.2	0.2	1.0	0.0	8.5	0.7	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.8	13.8	11.7	23.2	16.4	12.2	38.4	0.0	45.5	55.9	0.0	32.0
LnGrp LOS	C	B	B	C	B	B	D		D	E		C
Approach Vol, veh/h		792			1068			534			234	
Approach Delay, s/veh		14.4			17.1			44.7			35.3	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	74.8	45.2	74.8	45.2
Change Period (Y+Rc), s	7.3	7.0	7.3	7.0
Max Green Setting (Gmax), s	54.7	51.0	54.7	51.0
Max Q Clear Time (g_c+I1), s	28.1	32.4	28.4	37.0
Green Ext Time (p_c), s	7.4	3.8	10.3	1.3

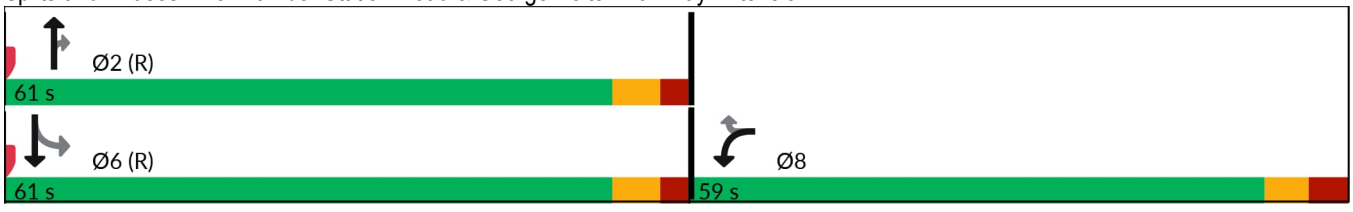
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	23.5
HCM 6th LOS	C

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	138	84	329	65	37	89
Future Volume (vph)	138	84	329	65	37	89
Lane Group Flow (vph)	138	84	329	65	37	89
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	29.5	29.5	32.7	32.7	32.7	32.7
Total Split (s)	59.0	59.0	61.0	61.0	61.0	61.0
Total Split (%)	49.2%	49.2%	50.8%	50.8%	50.8%	50.8%
Yellow Time (s)	4.0	4.0	4.2	4.2	4.2	4.2
All-Red Time (s)	3.5	3.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	6.7	6.7	6.7	6.7
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.64	0.31	0.24	0.07	0.06	0.06
Control Delay (s/veh)	62.0	12.1	3.2	0.9	8.1	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.0	12.1	3.2	0.9	8.1	7.3
Queue Length 50th (m)	32.9	0.0	10.0	0.1	3.1	7.5
Queue Length 95th (m)	51.9	14.0	24.0	m1.6	8.6	16.1
Internal Link Dist (m)	339.3		1542.4			1464.0
Turn Bay Length (m)	30.0			30.0	50.0	
Base Capacity (vph)	657	635	1352	921	594	1365
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.13	0.24	0.07	0.06	0.07

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Humber Station Road & George Bolton Parkway Extension



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	138	84	329	65	37	89
Future Volume (veh/h)	138	84	329	65	37	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1682	1682	1856	1497	1483	1870
Adj Flow Rate, veh/h	138	84	329	65	37	89
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	3	23	24	2
Cap, veh/h	176	156	1433	979	662	1444
Arrive On Green	0.11	0.11	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1602	1425	1856	1268	833	1870
Grp Volume(v), veh/h	138	84	329	65	37	89
Grp Sat Flow(s),veh/h/ln	1602	1425	1856	1268	833	1870
Q Serve(g_s), s	10.1	6.7	5.9	1.5	1.5	1.4
Cycle Q Clear(g_c), s	10.1	6.7	5.9	1.5	7.4	1.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	176	156	1433	979	662	1444
V/C Ratio(X)	0.79	0.54	0.23	0.07	0.06	0.06
Avail Cap(c_a), veh/h	687	612	1433	979	662	1444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.1	50.5	3.8	3.3	4.8	3.3
Incr Delay (d2), s/veh	7.5	2.9	0.4	0.1	0.2	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	1.8	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	59.6	53.4	4.2	3.4	5.0	3.4
LnGrp LOS	E	D	A	A	A	A
Approach Vol, veh/h	222		394			126
Approach Delay, s/veh	57.3		4.0			3.8
Approach LOS	E		A			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		99.3			99.3	20.7
Change Period (Y+Rc), s		6.7			6.7	7.5
Max Green Setting (Gmax), s		54.3			54.3	51.5
Max Q Clear Time (g_c+I1), s		7.9			9.4	12.1
Green Ext Time (p_c), s		3.0			0.9	1.1

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	19.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	46	100	0	0	122
Future Vol, veh/h	56	46	100	0	0	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	30	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	23	24	10	0	0	10
Mvmt Flow	61	50	109	0	0	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	109	0	-	0	281	109
Stage 1	-	-	-	-	109	-
Stage 2	-	-	-	-	172	-
Critical Hdwy	4.33	-	-	-	6.4	6.3
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.407	-	-	-	3.5	3.39
Pot Cap-1 Maneuver	1360	-	-	0	713	923
Stage 1	-	-	-	0	921	-
Stage 2	-	-	-	0	863	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1360	-	-	-	680	923
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	863	-

Approach	EB	WB	SB
HCM Control Delay, s/v	4.3	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	1360	-	-	-	923
HCM Lane V/C Ratio	0.045	-	-	-	0.144
HCM Control Delay (s/veh)	7.8	0	-	0	9.6
HCM Lane LOS	A	A	-	A	A
HCM 95th %tile Q (veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	0	0	0	0	100
Future Vol, veh/h	46	0	0	0	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	24	0	0	0	0	10
Mvmt Flow	50	0	0	0	0	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.34	-	-	-	-	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.416	-	-	-	-	3.39
Pot Cap-1 Maneuver	1489	-	-	-	0	1061
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	-	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	7.5	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	1061
HCM Lane V/C Ratio	0.034	-	-	-	0.102
HCM Control Delay (s/veh)	7.5	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q (veh)	0.1	-	-	-	0.3

APPENDIX K

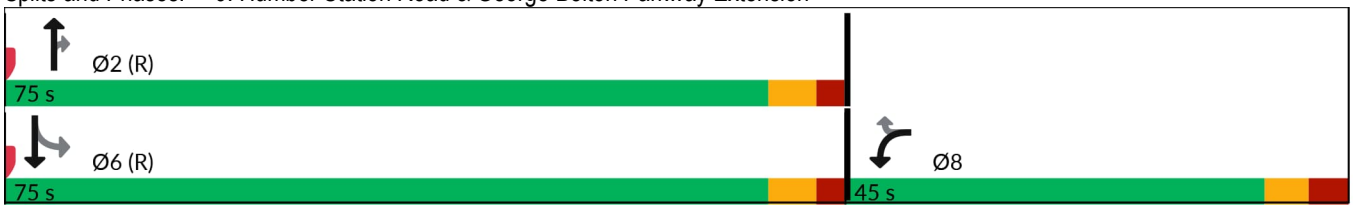
Sensitivity Analysis

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	46	29	82	139	79	293
Future Volume (vph)	46	29	82	139	79	293
Lane Group Flow (vph)	46	29	82	139	79	293
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	29.5	29.5	32.7	32.7	32.7	32.7
Total Split (s)	45.0	45.0	75.0	75.0	75.0	75.0
Total Split (%)	37.5%	37.5%	62.5%	62.5%	62.5%	62.5%
Yellow Time (s)	4.0	4.0	4.2	4.2	4.2	4.2
All-Red Time (s)	3.5	3.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	6.7	6.7	6.7	6.7
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.27	0.19	0.05	0.11	0.08	0.19
Control Delay (s/veh)	54.8	19.9	2.9	1.0	3.2	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.8	19.9	2.9	1.0	3.2	3.2
Queue Length 50th (m)	10.7	0.0	2.8	0.0	2.4	9.6
Queue Length 95th (m)	23.1	9.6	9.3	6.8	9.9	28.1
Internal Link Dist (m)	339.3		1542.4			1464.0
Turn Bay Length (m)	30.0			30.0	50.0	
Base Capacity (vph)	516	409	1476	1186	953	1534
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.07	0.06	0.12	0.08	0.19

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 9: Humber Station Road & George Bolton Parkway Extension



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	46	29	82	139	79	293
Future Volume (veh/h)	46	29	82	139	79	293
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1796	1525	1826	1724	1710	1885
Adj Flow Rate, veh/h	46	29	82	139	79	293
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	21	5	7	8	1
Cap, veh/h	157	119	1442	1154	887	1489
Arrive On Green	0.09	0.09	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1710	1293	1826	1461	1061	1885
Grp Volume(v), veh/h	46	29	82	139	79	293
Grp Sat Flow(s),veh/h/ln	1710	1293	1826	1461	1061	1885
Q Serve(g_s), s	3.0	2.5	1.2	2.7	2.1	4.6
Cycle Q Clear(g_c), s	3.0	2.5	1.2	2.7	3.3	4.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	157	119	1442	1154	887	1489
V/C Ratio(X)	0.29	0.24	0.06	0.12	0.09	0.20
Avail Cap(c_a), veh/h	534	404	1442	1154	887	1489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	50.6	2.8	2.9	3.1	3.1
Incr Delay (d2), s/veh	1.0	1.1	0.1	0.2	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.6	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.9	51.7	2.8	3.1	3.3	3.4
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	75		221			372
Approach Delay, s/veh	51.8		3.0			3.4
Approach LOS	D		A			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		101.5			101.5	18.5
Change Period (Y+Rc), s		6.7			6.7	7.5
Max Green Setting (Gmax), s		68.3			68.3	37.5
Max Q Clear Time (g_c+I1), s		4.7			6.6	5.0
Green Ext Time (p_c), s		1.3			2.8	0.3

Intersection Summary		
HCM 6th Ctrl Delay, s/veh		8.7
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	120	98	34	0	0	41
Future Vol, veh/h	120	98	34	0	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	30	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	7	21	0	0	2
Mvmt Flow	130	107	37	0	0	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	37	0	-	0	351	19
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	314	-
Critical Hdwy	4.26	-	-	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.28	-	-	-	3.5	3.32
Pot Cap-1 Maneuver	1529	-	-	-	626	1055
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	720	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1529	-	-	-	570	1055
Mov Cap-2 Maneuver	-	-	-	-	570	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	720	-

Approach	EB	WB	SB
HCM Control Delay, s/v	4.2	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1529	-	-	-	-	1055
HCM Lane V/C Ratio	0.085	-	-	-	-	0.042
HCM Control Delay (s/veh)	7.6	0.1	-	-	0	8.6
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q (veh)	0.3	-	-	-	-	0.1

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	98	0	0	0	0	34
Future Vol, veh/h	98	0	0	0	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	0	0	0	0	21
Mvmt Flow	107	0	0	0	0	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.24	-	-	-	-	7.32
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.27	-	-	-	-	3.51
Pot Cap-1 Maneuver	1585	-	-	-	0	1024
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1585	-	-	-	-	1024
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	7.4	0	8.6
HCM LOS			A

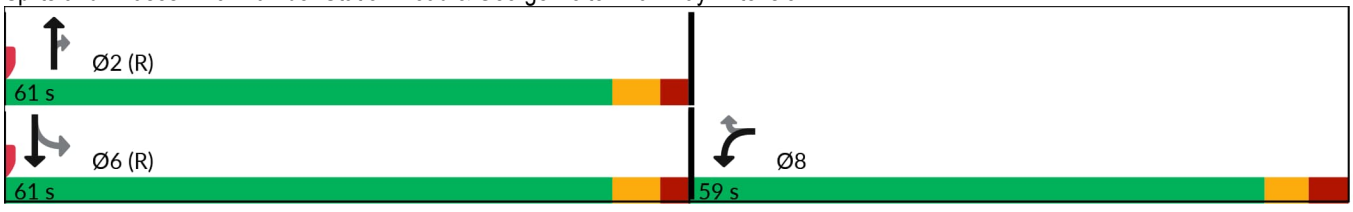
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1585	-	-	-	1024
HCM Lane V/C Ratio	0.067	-	-	-	0.036
HCM Control Delay (s/veh)	7.4	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q (veh)	0.2	-	-	-	0.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	138	84	329	65	37	89
Future Volume (vph)	138	84	329	65	37	89
Lane Group Flow (vph)	138	84	329	65	37	89
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	29.5	29.5	32.7	32.7	32.7	32.7
Total Split (s)	59.0	59.0	61.0	61.0	61.0	61.0
Total Split (%)	49.2%	49.2%	50.8%	50.8%	50.8%	50.8%
Yellow Time (s)	4.0	4.0	4.2	4.2	4.2	4.2
All-Red Time (s)	3.5	3.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	6.7	6.7	6.7	6.7
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.64	0.31	0.24	0.07	0.06	0.06
Control Delay (s/veh)	62.0	12.1	3.2	0.9	8.1	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.0	12.1	3.2	0.9	8.1	7.3
Queue Length 50th (m)	32.9	0.0	10.0	0.1	3.1	7.5
Queue Length 95th (m)	51.9	14.0	24.0	m1.6	8.6	16.1
Internal Link Dist (m)	339.3		1542.4			1464.0
Turn Bay Length (m)	30.0			30.0	50.0	
Base Capacity (vph)	657	635	1352	921	594	1365
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.13	0.24	0.07	0.06	0.07

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Humber Station Road & George Bolton Parkway Extension



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	138	84	329	65	37	89
Future Volume (veh/h)	138	84	329	65	37	89
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1682	1682	1856	1497	1483	1870
Adj Flow Rate, veh/h	138	84	329	65	37	89
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	10	10	3	23	24	2
Cap, veh/h	176	156	1433	979	662	1444
Arrive On Green	0.11	0.11	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1602	1425	1856	1268	833	1870
Grp Volume(v), veh/h	138	84	329	65	37	89
Grp Sat Flow(s),veh/h/ln	1602	1425	1856	1268	833	1870
Q Serve(g_s), s	10.1	6.7	5.9	1.5	1.5	1.4
Cycle Q Clear(g_c), s	10.1	6.7	5.9	1.5	7.4	1.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	176	156	1433	979	662	1444
V/C Ratio(X)	0.79	0.54	0.23	0.07	0.06	0.06
Avail Cap(c_a), veh/h	687	612	1433	979	662	1444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.1	50.5	3.8	3.3	4.8	3.3
Incr Delay (d2), s/veh	7.5	2.9	0.4	0.1	0.2	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	1.8	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	59.6	53.4	4.2	3.4	5.0	3.4
LnGrp LOS	E	D	A	A	A	A
Approach Vol, veh/h	222		394			126
Approach Delay, s/veh	57.3		4.0			3.8
Approach LOS	E		A			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		99.3			99.3	20.7
Change Period (Y+Rc), s		6.7			6.7	7.5
Max Green Setting (Gmax), s		54.3			54.3	51.5
Max Q Clear Time (g_c+I1), s		7.9			9.4	12.1
Green Ext Time (p_c), s		3.0			0.9	1.1

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	19.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	46	100	0	0	122
Future Vol, veh/h	56	46	100	0	0	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	30	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	23	24	10	0	0	10
Mvmt Flow	61	50	109	0	0	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	109	0	-	0	256	55
Stage 1	-	-	-	-	109	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	4.56	-	-	-	6.8	7.1
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.43	-	-	-	3.5	3.4
Pot Cap-1 Maneuver	1338	-	-	-	716	975
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1338	-	-	-	682	975
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s/v	4.3	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1338	-	-	-	-	975
HCM Lane V/C Ratio	0.045	-	-	-	-	0.136
HCM Control Delay (s/veh)	7.8	0.1	-	-	0	9.3
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q (veh)	0.1	-	-	-	-	0.5

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	0	0	0	0	100
Future Vol, veh/h	46	0	0	0	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	24	0	0	0	0	10
Mvmt Flow	50	0	0	0	0	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.58	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.44	-	-	-	-	3.4
Pot Cap-1 Maneuver	1474	-	-	-	0	1057
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1474	-	-	-	-	1057
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	7.5	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1474	-	-	-	1057
HCM Lane V/C Ratio	0.034	-	-	-	0.103
HCM Control Delay (s/veh)	7.5	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q (veh)	0.1	-	-	-	0.3

APPENDIX L

Functional Design Review

NOTES:

AS PER THE ONTARIO BUILDING CODE 3.2.5

1. 5.1 LOCATION OF ACCESS ROUTES – ACCESS ROUTES SHALL BE LOCATED SO THAT THE PRINCIPAL ENTRANCE AND EVERY ACCESS OPENING ARE LOCATED NOT LESS THAN 3m AND NOT MORE THAN 15m FROM THE CLOSEST PORTION OF THE ACCESS ROUTE
2. 6.1 ACCESS ROUTE DESIGN – A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
   (i) 6.1.a HAVE A CLEAR WIDTH NOT LESS THAN 6m,
   (ii) 6.1.b HAVE A CENTRELINE RADIUS NOT LESS THAN 12m
   (iii) 6.1.c HAVE AN OH CLEARANCE OF NOT LESS THAN 5m
   (iv) 6.1.g BE CONNECTED WITH A PUBLIC THOROUGHFARE

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LEA Consulting Ltd. Consulting Engineers and Planners **www.LEA.ca**		Project No. 25134 Date NOV 13, 2024		12519–12712 HUMBER ST. ROAD CALEDON ONTARIO 10 0 10 20 30m 1:1000	FIRE ROUTE REVIEW	Drawing No. 001

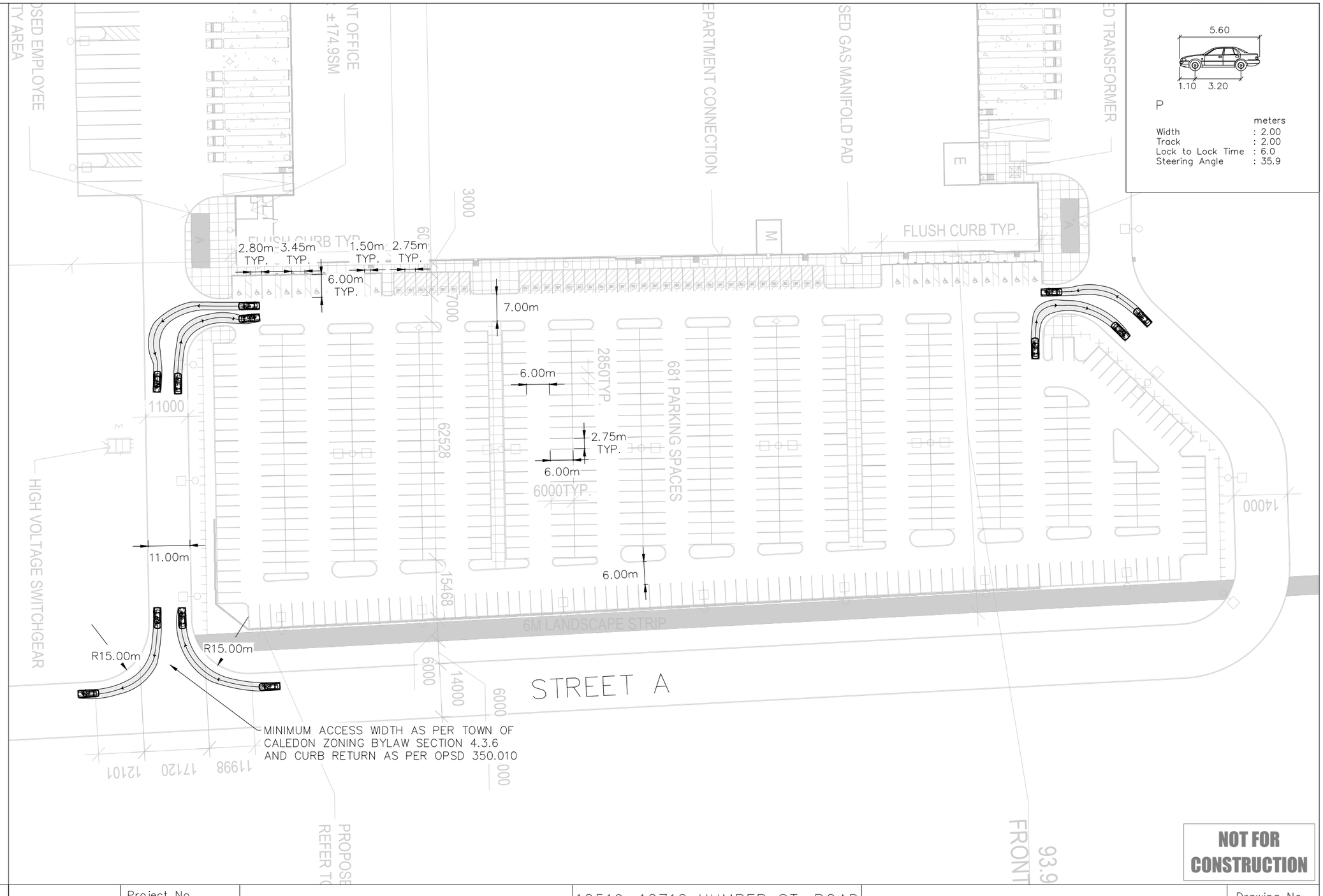
DRAWN BY: XCHEN PLOT DATE: November 13, 2024

DRAWING NAME: C:\Users\XChen\AppData\Local\Tem

NOTES:

AS PER TOWN OF CALEDON ZONING BY-LAW

1. THE MINIMUM ENTRANCE WIDTHS FOR INSTITUTIONAL, COMMERCIAL AND INDUSTRIAL ZONES SHALL BE 9m FOR A TWO-WAY ENTRANCE AND 6m FOR A ONE-WAY ENTRANCE AND FOR ALL OTHER ZONES THE MINIMUM WIDTH SHALL BE 3m.
2. WHERE PARKING SPACES ARE PROVIDED IN A SURFACE PARKING AREA, EACH PARKING SPACE SHALL HAVE WIDTH OF NOT LESS THAN 2.75m AND LENGTH OF NOT LESS THAN 6.0m
3. THE MINIMUM WIDTH OF AN AISLE PROVIDING ACCESS TO A PARKING SPACE WITHIN A PARKING AREA SHALL BE 6.0m, EXCEPT IN THE CASE OF ANGLED OFF-STREET PARKING ACCESSED BY A ONE-WAY AISLE, WHICH SHALL BE A MINIMUM WIDTH OF 4.5m.



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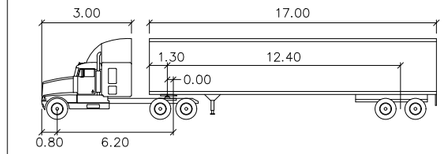
12519-12712 HUMBER ST. ROAD
CALEDON ONTARIO

10 0 10 20 30m
1:1000

PARKING AND ACCESS REVIEW

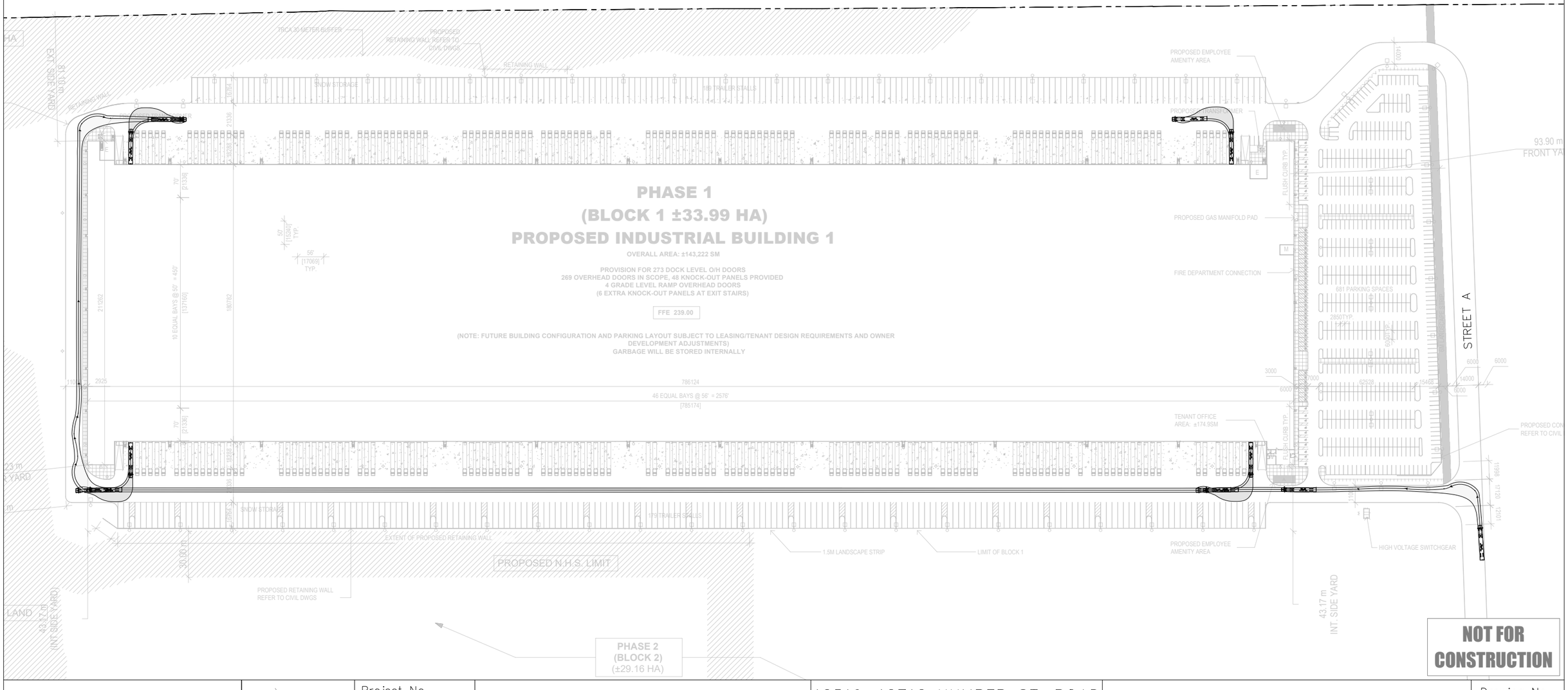
Drawing No. 002

DRAWING NAME: C:\Users\XChen\AppData\Local\Tem



WB–20

	meters		
Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		



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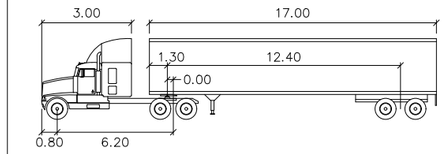
12519–12712 HUMBER ST. ROAD
CALEDON ONTARIO

25 0 25 50 75m
1: 2500

LOADING REVIEW
WB–20 SWEPT PATHS
ENTRY PATH

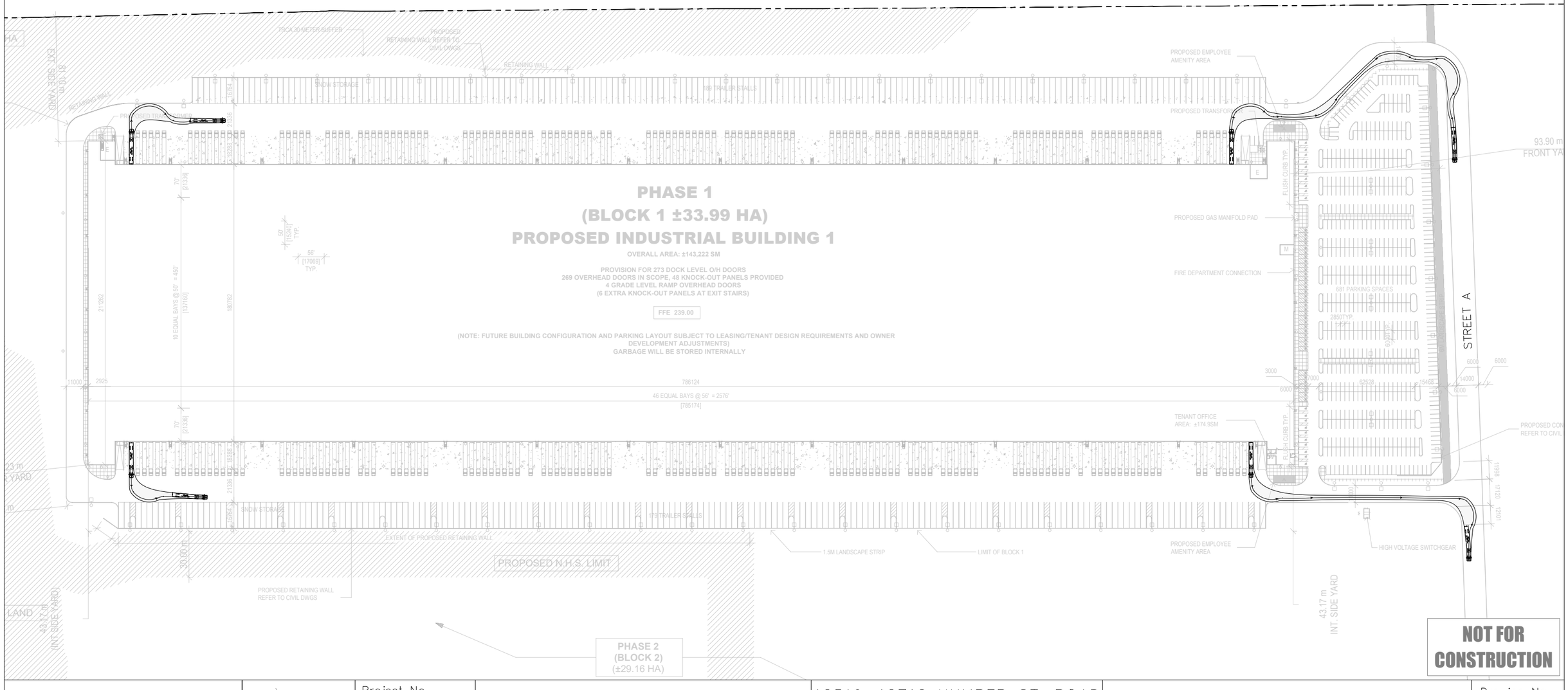
Drawing No. 003

DRAWING NAME: C:\Users\XChen\AppData\Local\Tem



WB–20

	meters		
Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		



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Date NOV 13, 2024

12519–12712 HUMBER ST. ROAD
CALEDON ONTARIO

25 0 25 50 75m
1: 2500

LOADING REVIEW
WB–20 SWEPT PATHS
EXIT PATH

Drawing No. 004

DRAWING NAME: C:\Users\XChen\AppData\Local\Tem